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SYLLABUS IN HEALTH EDUCATION

(Hygiene and Physiology)

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GENERAL INTRODUCTION

The principles upon which health should be based are:

1. The meaning of Health

"Health is that condition of the body and its organs necessary to the proper performance of their normal functions." It is that condition which we ordinarily speak of as physical fitness, although it goes deeper than that and includes mental and moral fitness. Its attainment means completeness of body, of mind and of character.

2. The importance of Health Education

Health is the most important resource of the nation. Our country today is far from having at its disposal the maximum efficiency of this resource. Physical examinations of 6,000,000 young men who were candidates for military service showed that one-third of them were so unfit, physically or mentally, as to be practically useless for such service, and they were rejected,—one-third of our potential field fighting force unavailable for a great world crisis. Analysis of these rejections shows that most of these defects were removable or preventable if these men had had proper care, treatment and instruction while attending our public schools.

About 1,200,000 of us die each year, 42% of these deaths being due to preventable causes. About 3,000,000 of the people of this nation are constantly ill, mostly from preventable diseases. These deaths and these illnesses cost an economic loss of at least $2,000,000 annually.

Advancing medical science has proven that these losses are unnecessary. In a generation the death rate from tuberculosis has been diminished one-third. Because of the use of vaccination we now have almost no deaths from that scourge of our grandfathers—smallpox. Malaria and yellow fever need no longer be a menace. Typhoid fever is proven to be a disease of poor sanitation and carelessness. If given in sufficient amounts early in the disease, antitoxin has wiped out the great terror of diphtheria.

3. The place of Health Education

The rational place for Health Education, and the only place where any real, lasting results are likely to be obtained, is in the public schools, where large percentages of the population can be reached for instruction at the age when it is most likely to have a definite bearing on their future.

4. The goals of Health Instruction

a. To establish health habits and standards with emphasis on acts rather than knowledge.

b. To give the child knowledge of practical facts relating to cleanliness and sanitation, to food, fresh air, exercise, rest, and the causes of preventable diseases and the means of checking them.

c. To develop ideals of health, beauty and service for self, school and community that will result in better living.

d. To arouse the sense of individual responsibility for the health of the community, and to set standards of health for the community.

5. The personal responsibility of the teacher

It should be realized that in no other part of the curriculum does the teacher teach so constantly as in Health Education. Silently, insistently, whether consciously or not, the dress, carriage, neatness, voice, manner and habits of the teacher are moulding the lives of the pupils. The neatness and cleanliness of the schoolroom, building and premises have a similar effect. A helpful and cooperative attitude on the part of the teacher toward other health factors, such as the physical education activities of the class, games, athletics, etc., and toward the school nurse and school physician are essential to real health progress.

6. Gradation and progression

Even more in education for health than in other forms, are the words of Professor William James true, that the teacher's duty consists "chiefly and essentially in training the pupil to behavior" and that the education itself is "the organization of acquired habits of conduct and tendencies to behavior."

The younger the child, the easier it is for him to form habits, either desirable or undesirable. As the chief aim in health teaching is to establish the *right* habits, we must begin as early as possible to encourage the desirable reactions is all situations involving health, and we must see that all through the school years repeated opportunities occur for these same reactions. We cannot devote the first year to acquiring habits of cleanliness, drop that the second year and concentrate on habits relating to food, and so on. Essentially the same underlying facts relating to exercise, fresh air, food, sanitation, action in emergencies, etc., must be emphasized in the various grades. We must find some way of keeping the child interested from year to year in these same facts and principles—in other words, we must make applications which are adapted to his needs and stage of development.

To accomplish this, the work in each grade is approached through some definite, present interest or need. Such approaches may be divided into several groups as:

a. *References to season of the year and to the weather.* Seasonal and daily changes of weather conditions give repeated opportunities for such teaching as protection from cold and rain, proper clothing for winter and summer, prevention of colds, ways of preventing and treating frostbite and sunstroke, and opportunities for community service such as clearing snow from sidewalks, help in anti-fly campaigns, relation of dusty days to the spread of disease by expectoration, floods and their relation to water supplies, etc.

b. *Correlation with other subjects in the school curriculum.* This perhaps, forms the most logical basis for planned progression, not only from season to season (for the season definitely influences the progression in certain other studies), but from year to year. For instance, the study and practice of habits of cleanliness might be carried on in the first year or two in connection with the study of the child's daily interest and activities and his home life, the next year in connection with the care of pets, and again with the study of the homes and peoples of other lands. Still later it might be correlated with the work in civics.

There are countless opportunities for linking health teaching with the work in nature study, geography, studies of primitive life, industrial and fine arts, household arts, physical education, literature, civics, history and study of social life. In the history class, for example, such health correlations as these might be made: the great plague and its relation to the living habits of the Middle Ages and to vermin such as rats; the study of prevention and stamping out of germ diseases in connection with the Spanish-American and Russo-Japanese Wars; the delay of the progress of civilization in Central and Carribean America by yellow fever. The "Town and City" volume of the Gulick Hygiene Series offers much material for such correlations.

c. *Specific community or national activities.* If the community is engaged in a "Better Baby Week," an "Anti-Mosquito Campaign" or "Swat the Fly Week," by all means encourage the cooperation of the school children in every possible way. In many towns the health commissioner will be glad to work out a program whereby the school children may definitely help in the performance of certain sanitary measures. "Clean Up Week" may be made of great value if the children under supervision can conduct and carry out the idea as planned either by the commissioner or by a committee of school children, the plan being formally approved by the commissioner. In accordance with their ability to understand, give them the reasons for the work being carried on through the sale of Red Cross seals, and information as to how they may help.

d. *Emergencies of various sorts.* If diphtheria, typhoid fever, or other forms of epidemic occur in the community, take the opportunity to study the cause and ways of preventing the spread of the disease, without promoting unwholesome fears. Disaster such as accidents, fires, calamities such as cyclones or wrecks all give opportunities for valuable and timely discussion of "Safety-First" and "First-Aid" measures.

e. *Health interests and responsibilities of various ages.* Having decided upon the actual material to be used at a given time, the method of presentation must be determined by the characteristics and natural interests of the child of that age.

We find that the child has no or little interest in health as such. He is interested in it only if it helps him to something else he wishes to do. He is interested in standing straight, if by standing straight he can march at the head of his line. He is interested in being well and strong if by being so he can play on the baseball team. He is not interested in how he is made, but in what he can do.

On account of the similarity of the underlying facts and principles to be taught in the various grades, the work of each should be approached through some definite, present interest. In this way the material grows out of the interests of the children, and is adapted to their needs and stages of development. Thus continuity is preserved without restoring to lifeless repetition. The approaches used are chosen not only for their particular fitness to the various grades and because of the appropriateness of the fields which they open, but also because they seem to present tangible points of interest which may be easily and naturally utilized by the teacher in the presentation of the work. The teacher is not limited to one approach; she is to use the one that holds the most interest for HER children. We must, then, associate the facts which are to be taught, and the habits which are to be inculated with the things the child likes to do, and in order to work out this plan we must know very definitely the characteristics of the different ages and the responsibilities and the satisfying activities we desire to promote as a result of these activities.

7. Characteristics of children in various grades.

Grades 1 to 4

The numbers indicate roughly the grades in which the activity may begin to be utilized to the best advantage.

1 Love of activity
1 Love of imitation
1 Love of making things, however crude
1 Love of collecting
1 Love of competition
1 Love of approbation
2 Delight in rhythm
2 Delight in motion and color
2 Delight in things that are alive
3 Active imagination
4 Gradually increasing ability to cooperate

Satisfying activities useful in relating these responsibilities and characteristics:

Active games
Stories
Dramatization
Songs and song plays
Pictures, especially colored
Care of pets
Playing in sand
Gardening
Cutting and pasting
Competition—individual, class, or room contests
Efforts to please, with praise or reward if successful

It is understood that children in these four grades do not have all of these characteristics in the same degree. The first grade child is a little individual, and in his plays and games he must act as an individual. As he grows older he very gradually grows in ability to cooperate and to play games where group action is necessary. To satisfy the construction instinct, the child of the first or second grade is content just to be making something, although it may be of no particular use to him and may be very crude. As he reaches the third or fourth grade he begins to want to make things to use, and demands of himself greater accuracy and skill in making them. At this time he also likes to do things difficult enough to require effort but not so hard that he cannot be successful. The desire for competition is not very much in evidence in the first grade, but becomes quite strong by the fourth grade.

It is well also to remember that the small child is not interested in such abstractions as truth, obedience, etc. He is interested only in the results of his own actions in these respects. If truthfulness, promptness and obedience bring praise from the teacher, which he very much desires, or bring him opportunities to do other things he wishes to do, he is interested in being truthful, prompt and obedient. If being dishonest deprives him of certain privileges he covets, he is less apt to be dishonest.

Grades 5 and 6

Responsibilities. Those of the lower grades are to be continued, but added to them are greatly increasing responsibility for self-control, civic cleanliness and cooperation in all home, school and community activities.

Characteristics. The children of this age have decidedly greater interest in companions and surroundings. They begin to have a definite interest in clubs, athletics, camping out, excursions, etc. It is the age of the "gang."

Satisfying activities. The interest in clubs, excursions, etc., may be turned to very good account in organizing for purposes connected with community health. The use of games (involving cooperation), dramatization, construction problems, competition, is continued.

Grades 7 to 9

Responsibilities. These are much the same as in grades 5 and 6, but include still greater cooperation in guarding and improving health in the community.

Characteristics. The gang interest gradually changes to interest in the group as a social unit. Boys and girls of this age are particularly susceptible to adult influence. Interest in athletics, camping and hunting continues. There is a genuine interest in history, a great love of adventure, admiration of physical prowess, hero worship. Interest in cooperation and competition is keen. Dramatic interest is a little stronger again than in grades 5 and 6.

Satisfying activities. Organizations for specific community service, excursions for study of conditions and standards of health and sanitation, contests and debates, athletics, field trips (nature study), class problems in connection with community health are all excellent means of definitely interesting these pupils in health work.

General Suggestions as to Methods of Teaching

Type of instruction. Hygiene is best taught, not simply by a specified period of the day devoted to formal health instruction, but by making it part of the instruction in all other subjects. In the elementary schools the health work is in most cases in the hands of the grade teacher, who should use every opportunity to make reasonable application of any fact or principle which may arise in connection with any subject, to the problem of healthful living. This application should be made at the time the occasion arises. In this way all other subjects may be made to support health instruction.

In the lower grades there is little place for systematic class instruction, but in the upper grades, beginning with the fifth, it may be very valuable if it is used to support health habits which have been or are being acquired, and to develop in the pupils a definite sense of responsibility for community as well as personal health. The social approach is always better than the personal.

Motivation. The motivation for health instruction should be found in the class itself. The greater the number of projects and problems originating with the class, the better the results will be.

Adaptation to conditions. Program and method should be adapted to the conditions prevailing in the particular school or community. Some schools will need special emphasis on eating and clothing for instance, and much less on cleanliness. Again do not make demands without providing facilities for carrying out instructions. For example, children cannot be expected to keep hands clean if only very inadequate provision is made for washing and drying the hands. But the need of clean hands should be taught. This will help get the facilities.

Cooperation. Many of the habit training activities will not transfer to the school. The teacher must therefore find some way of linking up with the home. She must, with the school nurse, gain the cooperation of the parents in encouraging and following up the practice of desirable habits.

The teacher herself must cooperate in every possible way with the school doctor and school nurse because only in this way can the best results be obtained.

Special Aids and Devices Useful in Health Teaching

Inspection and records. In many schools it will be necessary to take a few minutes daily for inspection of hands, nails, hair, teeth, shoes, etc. This may be done at first by the teacher, later by pupils who have formed the best habits in these particular lines. After habits are pretty well formed it may not be necessary to make a complete inspection every day, but it will be well to call for inspection often, and without the pupils knowing just what days or just what particular inspection will be made. One day it may be found best to inspect hands and nails, another day shoes, etc. There should be special unannounced inspections by the school nurse and school physician.

The keeping of a health record is also valuable. Printed blanks providing space for checking up time of arising and retiring, whether or not bath was taken, what was eaten for lunch or breakfast, times teeth were washed, etc., are used. These are filled in each day by the teacher or pupils for the day before. A permanent record of actual practice is thus provided. Averages for the week might be made and posted to stimulate interest. Competition between rows in the class room and between class rooms or even schools is a great help.

Opportunities to practice in school. Children must be given opportunity to practice correct methods of doing things at school. The "tooth brush drill" is one illustration of this. It is important that the correct method of cleaning the teeth should be shown, and it is much more "fun" to practice it in a group than individually. Call attention to children who have good posture; letting them be leaders will stimulate in others a desire for the same thing.

With younger children particularly, additional drinking of water may be encouraged by filing them past the bubbling fountain or other source of water supply, at the same time giving information in regard to the proper use of the facilities available.

Textbooks and experiments. Textbooks should not be used before the third or fourth grades. After this they are important for the pupil and for the guidance of the teacher, but should suggest material only and in no way limit its range and the methods of application. The text book should appeal to the interests and understanding of the children of the grade in which it is used. As much information should be in story form as possible. For the upper grades stories of actual achievements in civic enterprises are much more useful than mere information as to what may be done, particularly enterprises relating to pure water supply, sewage disposal, fly campaigns, Panama Canal Zone sanitation, preservation of health in the army, etc.

Simple experiments are valuable helps. Children should be encouraged to ask how and why, and experiments may be made to satisfy the child's natural craving to understand the relation between cause and effect. Again care should be taken to use only such materials as is within the range of the child's understanding.

Illustrated Material

Pictures. Pictures may be made a very valuable help to health teaching. They make facts clear and keep them before the children's minds. It is best to illustrate in this way things that are to be imitated rather than those to be avoided. Good pictures showing good posture, pictures of athletes showing fine physique, pictures of heroes of history and literature, pictures showing proper action in emergency and for safety—all have their place. The colored pictures make a greater appeal to small children than the black and white. Pictures made by the children themselves have great value.

Charts. The use of charts gives a concise method of checking up individual and group progress. A chart of a child's own personal success or failure may prove a valuable incentive to him. In the same way, charts showing the comparative progress of different rooms in acquiring health practices, will inspire a whole school to greater activity. Charts are also advantageously used to illustrate community and national progress in fighting disease, etc.

Posters. What has been said of pictures and charts is true of posters. They may have an even greater appeal to the imagination and to the emotions, and are very useful in keeping ideals of the right sort before the children.

Lantern Slides and Moving Pictures. These are being used more and more in the schools, and are very helpful in the study of insect and animal life; in showing the favorable and unfavorable sanitary conditions and the methods of improving the latter; in showing proper ways of safeguarding life and property, proper action in emergency, etc.

Appeal to the Imagination and Imitative Instinct

Stories. To small children the "Land of Story Books" is most fascinating of all. Children like personalities rather than the abstract—their little minds dwell constantly in the realm of the imagination. The early years are the most impressionable of all. Make fundamental facts the underlying principles of these stories and tell them in such a simple and captivating way that the child is interested. The same facts may be given over again in different settings, and the same stories will be called for over and over again.

The story has a decided appeal through all grades. In the upper grades stories taken from history and real life or of fiction, may be used to great advantage. The story of the heroism of the army physician who discovered the method by which yellow fever was spread, is an example of the method of fixing in the minds of the pupils many of the facts regarding the advancement of sanitary science. The life and work of Pasteur is a series of fascinating achievements for human welfare.

Dramatization. At all ages the child likes to act. There is a decided appeal in acting out situations which is lacking in the bald statement of fact. In the lower grades the children play house, keep store, play school, and take delight in giving definite, little health plays.

As they grow older they dramatize scenes from their other studies—literature, geography, history. This giving of plays also fosters a spirit of cooperation and community sense, at the same time providing for the display of initiative and leadership.

Dramatization is especially useful in accident prevention, first aid and emergency work. A given situation is imagined and the pupils act out the correct first aid procedures.

Special devices. A life-size doll for their very own will appeal to third grade girls. They can wash her, dress her and comb her hair. The older girls can make her cloths and bed clothes. The older boys can make her bed and other furniture.

The activities similar to the Girls' Health League, the Health Crusade, etc., should be encouraged.

Appeal to the Love of Rhythm

Songs. Health facts put into verse and combined with an attractive melody are more impressive than when merely stated.

Song Plays and Singing Games. These may be based upon health facts in many different ways. If the play or game calls for a showing of hands, fingers, or feet, show delight in the presentation of clean hands and finger nails, and clean shoes.

Rhyme. Health "jingles" or "limericks" have a peculiar appeal. The children like to make their own. When they do this the best may be chosen by the class and used as class mottoes for the week or month. Hold group competitions in this activity.

Utilization of the Constructive Instinct

Sand Pile, Sand Table and Sand Box. In the early grades the sandpile, table and box are valuable aids in health teaching, giving opportunity for many helpful lessons in community health, building of sanitary houses, schools, towns, model farms, exhibits of playgrounds and parks, and for older children linking together playgrounds, health activities and civics.

Community Construction. Another means of creating interest and getting over certain facts in health education is the adaptation of the community project, which has been so excellently worked out in some schools, to health problems. There may be constructed from building blocks, paper houses, colored sawdust, villages that are models from the sanitary point of view, including location and handling of water supply, sewage disposal, garbage and other refuse collection, proper allotment of space for recreation and play about the homes and for school and community playgrounds. In communities that are at all rural this device may be used for the planning and proper relative arrangement of farm buildings, including such factors as the house, its interior arrangement, window area and placing and arrangement of shade, construction of model barns, particularly from the dairying point of view, hog pens, chicken houses and yards, etc. The relation of all of these, each to the others, and to the water supply, outhouses, sewage, manure and other refuse disposal, relation of the group of buildings to hillsides, growths of trees, streams, and so on, may be made a living problem. With tiny Meccano motors there may be demonstrated the possibility of electric light for farm buildings, pumping of water, artificial ventilation, etc., thus providing modern sanitary facilities in the homes and schools, wherever located.

Making of Scrapbooks. Children like to cut out and paste, also to collect pictures as well as other things. All of these interests may be used in the making of scrapbooks. Let each child make his own. He might be allowed to collect all the pictures he can to show what he does to get ready for school in the morning, what he does on a winter day (dress and activity), what he does at home to help mother, what mother does to help him, etc. Let the children decide which one or two or three they like best, and give the ones who made them some special honor.

Making of Posters. Let the children be encouraged to make posters illustrating some particular health fact. They like to do it and it gives opportunity for expression of originality, at the same time emphasizing desirable habits.

Sewing. Let the girls make clothing for their dolls, or for those of their younger sisters, emphasizing the proper kind of material and design for the various seasons and occasions. Let them make sheets for the doll's bed and learn at the same time how the beds may be properly made. The girls may also make bandages for the "first aid boxes." The making of layettes offers wonderful opportunities for instruction in the care of infants.

Manual training. There are countless things the boys can make in manual training classes which are of definite use to the school and community. Encourage this as much as possible. The list may include fly swats, fly traps, doll houses, toys, bird houses for parks and streets, tables, book cases, stage scenery, playground equipment, ice boxes for poor relief, first aid boxes, etc.

Responsibility in schoolroom. Children like to be given responsibility. It makes them feel "grown up." Let them take turns in taking care of the plants, birds, gold fish, etc., which are in the schoolroom, using this care for apparently incidental instruction on the need of fresh, clean water, fresh air and food. Older children may be made responsible for watching and reporting temperature of room, taking charge of certain parts of the ventilation keeping book shelves in order, putting away work materials, etc.

Every pupil should at one time or another be appointed to serve as Pupil Health Officer. The teacher must determine what duties shall be assigned to this officer. As an aid thereto, the following suggestions are made:

1. A weekly report from Pupil Health Officer to teacher.
2. Daily inspection to determine:
    a. Cleanliness of classroom, floors, walks, desks, seats, etc.
    b. Cleanliness of cloakrooms, halls, school yard, etc.
    c. Cleanliness of the toilets or privy.
    d. Temperature of room (Read thermometer at least twice a day, same hours daily).
    e. Whether ways are provided for adding water vapor to the air and if so, how much water per pupil is evaporated daily.
    f. How many times have the windows been thrown wide open and the school thoroughly aired.

Participation in Concrete Civic Activities

Encourage school children to do their part in every possible community activity. Training for citizenship is to be found in such practical activities as helping keep the streets clean (picking up papers, banana peels, etc.), patrolling dangerous street crossings to protect children going to and from school, and cleaning snow from sidewalks, sprinkling sand or ashes on icy sidewalks. Children of the upper grades especially can help very definitely in organized campaigns against flies, mosquitoes, tree destroying insects, rats, etc., in order to do their "bit" they will get the necessary information and much more that is of interest to them. There may be definite campaigns to promote protection of birds, to keep the city beautiful, to clean up vacant lots, and similar community health projects.

If properly guided, children will get much helpful information and be able to render much service in connection with special community or nation wide drives such as those of the Red Cross, Anti-Tuberculosis Fund, etc.

Field Trips. These may be made to study health problems first hand, to develop civic pride and create standards. Such trips stimulate interest in community health, give an understanding of the reasons for health laws, and so encourage a willingness to share responsibility in making and keeping such laws. Visits may be made to dairies, markets, bakeries, factories, mills and ship yards, to see what precautions are actually taken to keep things clean and safe. A visit to the fire department, with a talk from the chief on ways to prevent fires and what to do in case of fire, would be very valuable. In connection with the courses in civics, visits to water purifying plants and sewage disposal plants should be organized.

Problems. Special problems suggested by the teacher, or preferably by the class, may be worked out. For example, in preparation for a campaign against flies, one class may make a "survey" of the town mapping out all fly breeding spots in each block. Another class may make and place fly traps.

Competition

Contests. Throughout the grades, contests of all sorts may be used to stimulate interest. A lower grade class may be divided into teams, named by the children, and compete to see who can have the cleanest hands, the cleanest shoes or the neatest hair for each week. Keep the names of winners posted so the contest may be carried over a longer period of time. An older grade might be divided into teams named after automobiles and race to see which one can have a perfect score card first for a day or week. Allow any team to challenge another to inspections of hands, nails, etc., without previous warning. This puts a decided game spirit into health work.

Debates. For the upper grades, debates are excellent. They are an incentive to keen study and research, and give excellent opportunity for organizing and fixing facts, judging relative values, etc. Encourage pupils to gather information from all sources—parents, libraries, papers, magazines and personal observation.

Races. Certain very valuable lessons may be taught by use of races of various sorts.

For example: Each may be given a number of short ropes which on a given signal they are to tie into a long rope—using knots that hold—coil and throw to a person who is supposedly drowning.

Organization

To foster group consciousness and encourage leadership. If one is to be a helpful member of a community he must be able to work with others. Practice in this cannot begin too early. Even in the first grade it is "fun" and therefore useful to have a "club" even if it be more than a "finger nail club" with one officer—a secretary who inspects finger nails for the week and gives good marks to the owners of clean ones.

By the time the children reach the fifth grade they begin to have a definite desire for group activity. A club is better than a gang, and the invaluable "give and take" attitude is fostered by club activities. It is easy to organize the children for many useful ends. These are a few suggestions:

Knights of King Arthur. This may be an organization for practice in chivalry, courtesy, etc. Each boy may take the name of a particular knight. He will attribute to his own knight all the good qualities of a true knight, and will attempt to follow him.

Health League. Each room may have a Health League of its own—electing its own captains, and monitors to report on condition of hair, shoes, teeth, etc., in each row. The records may be kept on the board, and at the end of the month a banner may be given to the best row who must defend it the next month or hand it over to the next winner.

All of these class clubs may be combined into one large club for community and home hygiene work.

Modern Health Crusaders. This is one of the most popular health clubs for children and its primary object is to teach children the first rules of hygiene. At this date several million children (between the ages of 6 and 16) in the United States are enrolled in this crusade against dirt and disease.

Children can win membership by performing certain useful duties at any time during the year, and this is done by means of a Health Pledge and Health Chores. The Health Chores are simply the duties every child should perform daily, but the plan gives the form of a contest or a game spirit, and so the child accomplishes easily what would otherwise seem a real task. Interest may be added by working out a scheme of room, school and district competitions.

Here are the standardized Health Chores. They are filled out by the children, and signed by them and the parents. They are to be filled out each day for six weeks.

1. I washed my hands before each meal today.
2. I brushed my teeth thoroughly.
3. I tried hard to keep fingers and pencils out of my mouth and nose.
4. I carried a clean handkerchief.
5. I drank three glasses of water, but no tea or coffee.
6. I tried to eat only wholesome food including vegetables and fruit.
7. I drank slowly two glasses of milk.
8. I went to toilet at regular time.
9. I played outdoors or with windows open a half hour.
10. I was in bed eleven or more hours last night, windows open.
11. I had a complete bath on each day of the week that is checked (x).

A pupil may become a Modern Health Crusader and win honors of knight-hood by doing fifty-four or more of the health chores each week.

Civic Clubs. These may be organized somewhat as the above. It is a good plan to see that each child is on some committee—ventilation, safety-first, clean up committee, etc.

Clean Street League—organized to keep the streets in clean and beautiful condition. Such clubs took an active part in cleaning up the streets of New York City when Colonel Waring was head of the Street Cleaning Department. They elected their own officers and drew up their own constitution, held meetings weekly and discussed subjects connected with the health and cleanliness of the city. They sent reports to Colonel Waring, telling what specific things they had done to improve conditions, such as picking up papers and banana peels. They also sent in reports of people who swept rubbish into the street or broke other health rules. The street cleaning department gave badges of honor to those who sent in reports and so showed that they were working, and Colonel Waring sent a signed certificate with each badge.

Girls' Health Leagues. These may be organized among the girls. Their purpose is to instruct girls, largely those of the seventh grade and beyond, how to care for babies, that they may be a real help in the home, caring for younger brothers or sisters. Their activities cover such things as proper feeding, bathing, making baby's bed and guarding his sleep, clothing, including kinds and quality of materials, making layettes, practice of dressing a big doll, etc.

Where there is a school nurse she should organize and instruct this League covering such content as hygiene of the home, lighting and heating, fresh air; mosquitoes, lice, flies, bedbugs, etc.; the baby's bedding, changing the baby's position, sleep, weighing the baby, bathing the baby, clothing, dressing, baby's diapers, breast feeding, the bottle fed baby, proper food for the bottle fed baby; milk, where it comes from and where to buy it, care of milk in the home; baby's food during the second year; habits to be avoided; contagious diseases of babies.

Organizations such as Boy and Girl Scouts, Campfire Girls, etc., give recognition to and encourage health activities. The school should be careful to cooperate with these organizations in every way.

Recognition. Children are all susceptible to rewards and punishment, whether they be in some material form or in the form of praise or blame from the teacher or some one else whose good will they desire. Care should be taken to recognize in some way the effort to do the desired things.

Forms of Credit and Rewards which may be Properly Used

Credit. Hygiene practice should be graded just as seriously as any other subject in the curriculum, and the grade should count just as much toward promotion. It is to be noted, however, that this grade should be based, in the lower grades at least, on actual health habits, acquired and retained, rather than on information.

Cleanliness Roll Call. This may be carried out in the first two years, the teacher recording for each child whether she has washed her hands, brushed her teeth, etc., for the day before. At the end of the month this record may be sent home to her parents. Parents often help keep these records.

Score Cards. In the next three or four grades the children keep their own score cards, filling out blanks each morning telling how many hours they slept, and whether the windows were open or not during that time.

Posting Scores. Monitors may take the score for each row and post it on the blackboard. The row getting the highest score each day may be given a star on the blackboard. The row or team winning the most stars in a given time may be given a banner to keep till some other group wins it from them. All scores should be checked so far as possible by rigid personal inspection of the pupils.

The names of the individuals winning the highest scores may also be posted, or they may be given special privileges.

Pins, Buttons, Badges. The collecting instinct may be utilized here by giving, pins, buttons, badges or ribbons for certain accomplishments in the health line. All individuals getting a certain score for three successive months might be awarded a health badge. Those belonging to active health clubs or doing good work in health activities might be given buttons or pins.

Prizes. If prizes are given they should not be money prizes or objects having any real value—unless such as a picture, to be awarded to a room. The prize should be desired for what it signifies rather than for its money value.

In any awarding of prizes, make the award on the basis of group effort wherever possible. Combine the individual reward with that for the group, so as to subordinate the individual to the group.

Exhibits. These have great value, not only as a stimulus to the children, but as a means of informing the parents and officials and thus securing their cooperation.

Arrange the room attractively with health posters, pictures, etc., and on desks exhibit health devices made by pupils, such as fly swatters, fly traps, paper drinking cups, etc. Have plenty of health pamphlets, emphasizing the special problem on which you have been working, ready for distribution; let the children plan and conduct the exhibit in every way possible, even to the guidance of visitors and the explanations which need to be given.

Basis of Judging Success of Teacher

Results count. The teacher should not only be given the allotted amount of time to the work of Health Education, but she should have the interest of the pupils and the community in this work.

Do they themselves take an interest in keeping clean? Are their homes and surroundings clean and neat? How much have they improved during the preceeding year?

The teacher should have information on the physical condition of every child in her class. She should know the condition of his teeth, eyes, hearing, whether or not he has frequent colds, sore throat, etc., whether or not his posture is good or bad; if bad, she should ask herself whether or not it is improving.

She should know their health habits. Does the child get a sufficient amount of the right kind of foods, sufficient sleep? Has he sufficient clothing? Does he breathe through the mouth? Are his teeth, face, and hands clean. Just what is she doing to bring about improvement?

What are the children doing for the health of themselves and of the community? Have they made or secured fly swatters, fly traps, protection for the food and dishes used for school lunches? Are the toilets screened and otherwise fly and vermin proof? Have they made any school equipment such as sand boxes, teeter totters, swings, etc.?

Have they engaged in health campaigns against flies, mosquitoes or rats? Do they help prepare a hot school lunch? How many new games have they learned during the year? Did they hold a play festival? What have they done to increase the size, use, or beauty of the playground?

Is the classroom well ventilated, window shades properly adjusted, blackboards clean, desks tidy, etc.? Is there a parent-teacher association? What are its activities?

How much contagious disease has there been in the district? What proportion of the physical defects of the pupils have been removed during the past year? What special efforts did the teacher use to secure these corrections? What are her plans for securing a greater percentage of corrections the present or coming school year? Has the amount of money available for health work been increased during the past school year.? What help, if any, did the teacher, school or parent-teacher association render in securing this increase?

Teacher and School Nurse

In no other part of school work do the -personality, habits and condition of the teacher count for so much as in Health Education. This is also true of the nurse. Both nurse and teacher are living examples of the subject. To be successful they must be alert, neat, careful in act, dress, speech and carriage, models of good cheer and health. This is particularly true in the lower grades where "teacher" and "nurse" are often the ideals of imitative minds.

The physical and health record of the pupil should be reported to the parent as an integral part of the scholastic record.

Teachers should make a special drive each year on some one phase of the course of study, that pupils may feel that fresh material is being presented to them. It is suggested that these drives cover the following subjects and sequence.

Grade I	Cleanliness of Skin and Teeth
Grade II	Food and Clothing
Grade III	Cleanliness of the Home and School
Grade IV	Fresh Air and Sleep
Grade V	Posture and the Special Senses
Grade VI	Industrial Hygiene
Grade VII	First Aid and Nutrition
Grade VIII	The School and Health

Grade IX	Industrial Health
Grade X	Home Hygiene
Grade XI	Protection by the School
Grade XII	Health and the Community

The school nurse is the real health officer of the schools. The community which does not provide a school nurse to guide and guard its children is not doing its duty to them. At every opportunity she should be used to emphasize the value of proper health habits, to conduct health drills, to organize health exhibitions. Every trip of children to clinic or dispensary should be used for her to drive home health ideas and ideals, to emphasize the fact that proper health habits would have prevented the necessity of such a trip. All this does not mean, however, that her presence in any way relieves the teacher of her duty and responsibility to her pupils. The nurse and the teacher should constitute themselves a health team, pulling for the health of their charges.

The purpose and business of the infant and young child is to grow to as great an extent as possible. At that time growth is the essential thing, and every thing else should be made to stand aside for it. During infancy we can do little more than make the conditions for growth as favorable as possible. During the following sensory epoch the chief duty is, after providing the essentials for growth, to provide materials and activities for the exercise of the sense organs. During the kindergarten and primary ages remember that vigorous exercise is needed frequently, but in small doses. During the years six to ten we must make the child's body a store house of vitality to tide him over the period of pubertal changes. This storage of vital capacity seems to be particularly necessary in children coming from the homes of the well-to-do, especially if for several generations the family has been in that status. Particularly we must remember that some form of physical exercise is equally essential to the health development of the boy and girl during the changing pubertal years.

We must keep constantly before us the fact that we are not producing mechanics, teachers, doctors or lawyers, but men and women to whom making a living will be of little value, if they do not know how to live.

THE PLACE OF HEALTH EDUCATION IN THE HIGH SCHOOL CURRICULUM

Just as in the lower grades, the real function of school instruction should be to teach how to live. This fundamentally gets down to efforts, not only to give certain information regarding health building in the individual, school, home and community, but, what is even more important, to form habits of proper living, not only as regards the individual, but as regards the persons and conditions about him.

Up to the present time the teaching of health building has been a colossal failure. This is proven by the fact that at the time of the World War one-third of our young men, at the ages of 18 to 40, when they should have been at their physical best, were rejected for military service because of some physical or mental defect. This condition is not only a serious military weakness, but means a great economic and industrial waste. The schools are largely responsible for this depressing situation because it is well known that if they had done their full duty to these men, when they were of school age, the great majority of these defects would have been removed, or, better still, would have been prevented.

The secondary school burden is great in this field of education, because it not only must inculcate good health habits, but break up bad ones. This is true all along the line, whether we consider habits of cleanliness, eating and food selection, clothing, rest and recreation, or posture itself, which has so important a part in making man what he is.

While much effort for building good health habits is essential, there must be a large effort on the side of information in regard to general health matters, such as, for example, the procurement of pure water supplies, sewage disposal, pure milk and food precautions—methods of checking disease, the menace of insects, the attainment of immunity, etc.

Principles upon which Health Education should be Based

Health Education, therefore, is of paramount importance. Health not only means life and happiness, but "health is wealth". While the world has given it too little consideration, nevertheless, the median age of death is rising steadily with the advance of knowledge of how to live. Two or three centuries ago ignorant, insanitary methods of living accompanied, as they are always sure to be, by recurring waves of great pestilences, caused the normal expectation of the duration of life of the average individual to fall at twenty-seven years or less. At the present time, in the United States, the average baby may expect to live fifty-five years.

This hopeful side of rapidly improving conditions is the fact to be emphasized. It is necessary at times to discuss bad conditions, but the things to be impressed upon the minds of pupils is not so much that tuberculosis kills 110,000 people a year, but that the death rate from this preventable disease falls about 25% each generation; and falls because people and communities are taking better care of themselves by better housing, better food, more rest, recreation, fresh air and sunshine.

Nothing succeeds like success; therefore, it is most important that these pupils should not only know that typhoid fever is a menacing disease due to careless sewage disposal, poor water supply, dirty hands and so on, but that modern science has taught us how to control it; that the 68 cities of America having a population of over 100,000 each, have reduced the death rate from it 81% in the last eleven years preceding 1921, that the Pennsylvania cities of Philadelphia and Pittsburgh have in the same time reduced the deaths from 92% and 96% respectively.

Because teaching these things has been so much neglected we must put special effort upon them now. Health instruction means more than the discovery of physical defects, more even than the removal of these defects, more than control of disease, more than better lighting, heating and ventilating of homes, schools, shops and factories—it means a careful, correlated teaching of all things which influence the mind or soul, as well as the body. Its real effort is to build, through proper standards of living, such a practical, efficient citizenship in relation to the individual family, church, state and nation as will create "a sound mind in a sound body" and thereby a nation, not only rich, big, and strong, but truly great.

The Main Objectives in Health Education

Not knowledge, but doing makes health. The formation of good health habits is the great goal. Conduct counts. All information, therefore, is merely for the purpose of laying a strong foundation on which health habits may be securely built. Knowledge of the structure of the teeth and of the causes of decay is important to be sure, but it does not necessarily follow that the person having this knowledge practices the daily, proper use of the tooth brush. This is a habit, to be formed only by doing.

Emphasize health, not disease.

The happy, healthful, forward looking type of instruction is the one that really produces results. Few, if any, persons were ever scared into keeping habitually clean. It was necessary to build up in them a sentiment for cleanliness—to establish a "morale" for health activities.

Pupils in our schools, and citizens in general, have certain health rights. We should know what makes for health and insist that our neighbors and communities set such standards of living as to protect the health of ourselves and of our families. In the secondary schools, much more than in the elementary, Health Education should bring about a working knowledge, and therefore control, of the factors in the individual, school, home and community that makes for better health, for on this knowledge we must depend for the improvement of local, state and national laws for the protection and improvement of health conditions. This phase of the work ties in closely with the teaching of civics.

Personal health leads to social and community health.

Only the strong healthy body and mind can give us that broad, firm foundation upon which good community health may be built. It is only through these that individuals have the vision, skill, knowledge and indomitable tenacity which is necessary to bring about better community health. The stream can rise no higher than its source,—the community is as healthful as the health habits of its citizens make possible.

Upon the teacher falls this duty and responsibility. For the great bulk of her charges she holds the key to the citadel of health. From the kindergarten on she may become the most potent force for individual and community health. To a large extent, the measure of her success is the health and health activities, not only of the class or school over which she may preside, but the whole community in which that school may be placed. Some of the evidences of this success are immediate, some are remote, but they follow as surely as "the night the day".

Aims and Goals of Health Instruction

To be successful, health instruction must establish standards of health—largely through habit formation—which will permeate the whole life of the individual and community life, and express itself in daily and hourly acts guarding health and life. There must be a combination of training and knowledge of such a practical nature regarding cleanliness, food, clothing, shelter, rest, recreation, fresh air, sunshine, exercise and other factors concerned in mind and body building, and in creating community responsibility, as will give every person proper, practically sub-conscious, reactions to the elements about him.

These standards vary considerably with the geographical location, which so markedly affects climate, environment and occupation. They vary, too, with the nationality of the people. Some races have acquired at least partial immunity to certain factors which, if not lethal, are at least very detrimental to others. For example, certain races seem more susceptible than do others to tuberculosis. This same disease is a much different problem in a crowded manufacturing city located in or near the eastern sea coast of the United States, than it is in the rural part of the mountainous, dry, inland sections.

Our whole race history is the story of this constant struggle for adjustment to environment, and the struggle is just as strenuous in health matters as in others, and the necessary standards of health efforts vary accordingly.

In the discussion of the problem presented, emphasize the positive point of view. To give a few instances—the really important point in regard to smallpox is not that in great epidemics it has formerly destroyed millions of the population of Europe, not that it is a disgusting and disfiguring disease, but that its prevention by vaccination is so sure and so safe that it is now a disgrace to have the disease. In regard to typhoid fever, the important facts to be emphasized are not that it was formerly the great scourge of cities and armies, nor yet that one of the classical examples of its methods of spread was the epidemic at Butler, Pa. several years ago—although that adds much interest so far as Pennsylvania children are concerned—but that we know how to prevent the disease, that it is controlled by proper sewage disposal, by pure water, milk and food supplies and clean hands and, moreover, that an epidemic cannot again occur in Butler because the town is purifying its water supply and guarding the other factors. The thing deserving great emphasis is the fact that it will soon be considered a disgrace to the individual and to his family to have typhoid fever, as it indicates carelessness on his or their part, and that it is already a disgrace to a community to have an epidemic of typhoid. In short, the desired result is not so much the knowledge of deplorable conditions, as is such knowledge and the formation of such habits as will avoid and correct them.

Age Interests and Characteristics

The interests and characteristics of pupils in junior high and senior high school vary with age. It is necessary to take into account the mental and physical make up of the boys and girls, particularly in considering those parts of the curriculum relating to physical activites. Both class room teachers and physical directors often fail because of neglect to note and take advantage of these differences. We should grasp every handle offered by the surging curiosity of these adolescents, and their activities, moral, physical and social, should be enlisted in the cause of health.

In the junior high school the pupils are in the late pubertal and early adolescent period, with the girls about a year further through these most critical epochs than are the boys. A glance at the weight tables in Appendix I. shows that during the ages 12 to 15 the girl is one to four pounds heavier than is the boy of equal height and age.

These children are in the height of the period of rapid growth. Teachers should keep constantly in mind the fact that as children grow older their physical powers and characteristics change. Certain factors should be kept particularly in mind.

Remember the pupils 9 to 13 years of age are entering a period of rapid growth in height, often at the expense of girth and of the vital organs. The bones are lengthening; this increases the lever length at the same time that the muscles are lengthening without proportionate increase in power. It requires more effort for these pupils to move about; their coordinations are shifting. Hence oftentimes these pupils, particularly the boys, seem to be "all feet". The boy is terribly self-conscious. He needs training in grace. It is the time "par excellence" to push rhythmic exercise and folk dancing. Chest capacity is small, therefore endurance is lacking. In athletic contests only short races, 30 to 60 yards should be run. Games like basket ball, soccer, and hockey, requiring continuous running should not be permitted until after the thirteenth year, unless modified by area lines so that no child is permitted to cover the whole field of play.

Age, sex and occupation also have a bearing in the desirable and permissable types of physical activity. Girls at certain ages are more able than boys, especially in early adolescence. This does not mean, however, that they should be strained in athletic contests.

A child whose habit is sedentary and who is not of a particularly athletic temperament greatly needs physical activities. When started in these activities, however, his introduction to them should be gradual, not only in the time used, but in the type of exercises offered so that there may be no danger of strain.

There is great danger of over-strain of the heart and of the abdominal muscles. Teachers, and particularly coaches, in high schools should keep constantly in mind the probability of their ruining a possibly great athlete by athletic excesses before the child reaches the age of eighteen. There are, too, great dangers to girls in too great physical activities, not only in games and athletics, but in social activities, particularly dancing, not so much because of the physical strain, but because of the excitement and late hours which usually accompany this activity. They should be carefully guarded about the time of menstruation.

The teacher should keep in mind the kind and severity of the different types of athletics that are suitable for different ages. No boy under 14 years of age, nor any girl at any age should throw the weights nor participate in a race of over 60 yards. No boy under 15 years of age should compete in a race of over 100 yards. No boy under 16 should enter a race of over 440 yards; no boy under 17 of over 800 yards; no boy under 18 over 1,000 yards; and no boy at any age over one mile. No boy under 16 ought to throw a weight heavier than 8 pounds, nor, if under 18 years of age, one heavier than the 12 pound shot.

Internal organs have not kept pace with the growth of the mass of the body, therefore there is no less absorption of food and oxygen, and waste removal is less efficient. All this is indicated by a higher disease rate at these ages, particularly among girls. They are likely to break under strain or become very susceptible to chronic disease which evidences itself later, particularly by a very high death rate from tuberculosis among young women in the ages 16 to 25. This diminished vital capacity may make a child appear dull. A very thorough course in personal hygiene, and, at all costs, provision for play, exercise, proper recreation and rest in the open air whenever possible, are truly a "vital" necessity.

The junior high school particularly owes to its pupils thorough preparation is how to live. This means ample time for instruction in health, the best of construction and equipment of gymnasia, and ample play and athletic fields where all the physical activities may have a chance. This is the age, too, when the great team games are beginning to be the most appealing athletic activity, and play fields must be large enough to accommodate soccer, football, baseball and similar team games for all the student body. Provision for a "school team" is not enough and is largely misdirected energy. School lunches should be proper and ample, sweets should be cut down.

Cheerful school and home surroundings are particularly needed. A nagging, wasping teacher, a scolding mother or irritable father may do irreparable harm. This unfolding mental and physical life evidenced by rapid physical growth, expanding, searching intellect, quickening emotional life, desire for society and its excitements, and the forming and deepening of the moral and spiritual sides must be fostered at every cost—little else counts.

In the senior high school we are in the midst of the adolescent period.

The heart has been growing very rapidly, and it takes time for this new material to gain strength and endurance, therefore, at this time, endurance tests, or any type of athletics that demands endurance, should be avoided. The brain has attained approximately its full size and weight, later additions are mainly in developing association areas rather than in gain in substance. The sensory and motor areas being fully developed further improvement in these comes mainly through quickness and precision of movement, that is, gain of skill.

Logical powers are increasing fast, and as the pupil is passing through a great debating and argumentative stage, which is often evinced on the athletic field by questioning the decisions of officials, we should use this stage in our health education work for carrying on discussions, debates, etc., on health problems.

After fourteen or fifteen there is an increase in the girth of the body which means an increased size in the vital organs. These organs are now ready for their final training. Play must be seconded by gymnastics. The value of athletics is at its highest point. Particular emphasis should be put on those needing training most, rather than on the few of the gladiatorial type who ordinarily make up school teams. Because of the lack of heart endurance such things as long halves of football or basketball, long distance racing, etc., should be absolutely forbidden.

Home hygiene should include a hard bed, light covering, cool room, wide open windows and a good night's rest followed by a cold bath with vigorous massage and rubbing. Such a program will harden the body and put the skin in condition where it quickly reacts to temperature. We should still remember our alternations of work and rest. There should be frequent periods of cessation from study with opportunity for deep breathing and fresh air. The tendency toward too many and too intense social activities which is very great at this age, should be controlled as far as possible. Excitement is not only fatiguing; it is exhausting.

This is, par excellence, the age of loyalty. The school is the tribe. This intense feeling often leads to excess, and is the cause of many of the unfortunate, mob-like occurrences at inter-scholastic contests. The pupil at this time particularly appreciates honesty and square dealing in his relations with his instructors. Health discussions or readings which bring in stories of the life, vitality, heroism, and ideals of those who ofttimes, have given their lives for the up-building of sanitary science, have a particular value.

Teachers should remember that health is impossible without a full development of all vital organs and remember, too, that the vital organs include not only the heart and brain, but the stomach and lungs as well. The vital, visceral organs, such as the stomach and heart, supply the demands of the development of the muscular system long before the mind and brain are really existent. These organs can be developed only through physical activity in proper surroundings.

TIME ALLOTMENT

In the elementary schools the following time allotment for the various phases of health education has been approved by the Department of Public Instruction.

Recess 150 minutes per week
Physical Education 90 minutes per week
Hygiene & Physiology 60 minutes per week

In those schools operating on the eight and four plan, this allotment of time should persist through the seventh and eighth grades also.

In secondary schools the time allotment is two "hours" per week. "Hours" has been interpreted to mean periods. Where periods are less than sixty minutes, it is felt that this time allotment is not sufficient for both physical education and teaching hygiene and physiology. Under such circumstances it is suggested that two periods be used for physical education, as has been the custom for years in those communities which have carried on physical education in secondary school gymnasia, and that, whenever possible, a third period be taken for teaching hygiene and physiology through formal classroom work, discussion, debates, news items, organization of health clubs, etc. It is suggested that in the ninth grade this might be made a part of the courses in general science. In grades above the ninth, subjects from which this time is taken must rest in the discretion of the principal or superintendent. It may be advisable to take a part of it from each of several subjects. In any case a definite period for health teaching as such, should be set aside.

Minimum Essentials

In some of the small communities, particularly in the fourth class districts, it will not be found feasible to carry out this course of study in full detail. Under such conditions every effort must be made to acquire the following minimum essentials.

Grade IX.
  I. Personal Hygiene
  II. Industrial Hygiene
  III. Tuberculosis

Grade X.
  I. Hygiene of the Home
  II. Our Insect and Vermin Enemies

Grade XI.
  I. School Hygiene
  II. Rural Hygiene
  III. Feeding the Family

Grade XII.
  I. Industrial Hygiene

II. Care of the Injured
III. Mental Hygiene
IV. Community Hygiene

OUTLINE BY YEARS.

Grade IX.

In this grade stress must still be put upon the formation of good personal habits, always keeping in mind that this is the last year in the junior high school, or the first year in high school in those communities using the eight and four plan of organization. Approach must be through the ideals, feelings and desires of boys and girls of this age. Personal pride and the desire to mingle socially are very strong; there is an intense interest in competitive athletics; the wish to choose a proper, healthful occupation is present and should be nurtured. The appeal to personal appearance and health, that one may succeed in the chosen occupation, should be made. The hygiene of dress, cleanliness and sleep should be urged through the desire to be attractive.

Motto: Improved health conditions are the mile-stones of advancing civilization.

I. Personal Hygiene

A. Care of the skin

1. The hands and face

a. Washing
(1) Frequency
(2) Kinds of water—hard or soft, hot or cold
(3) Kinds of soap—purity of fats used, amount of potash (lye), glycerine soaps, tar soaps, etc.
b. Use of cosmetics
(1) Glycerine, ointments as cold cream
(2) When needed—after dirty work that has necessitated the use of a harsh soap, when the skin is irritated after exposure to cold winds or sun
c. Massage

2. Nails
a. Keep closely trimmed to gain neatness of appearance, prevent lodgment of dirt
b. Need of filing or smoothing
c. Prevention of hang nails
d. Evils of biting the nails—appearance of the nails, aesthetic and sanitary reasons
e. Keep the hands away from the face
(1) Aesthetic reasons

      - (2) Sanitary reasons
  - 3. The body
    - a. Bathing—frequency, need of hot and cold baths, effects of each kind. The uses of soaps, ointments, etc.
    - b. Massage
    - c. Discuss the need of individual towels, soaps, and shaving utensils from both the aesthetic and the sanitary points of view
  - 4. Care of hair and scalp
    - a. Washing—frequency, uses and kinds of soaps. Wet only when shampooing, to retain necessary oil in scalp
    - b. Value of hair tonics, singeing, massage
    - c. Dangers of the curling iron, etc.

B. Care of the teeth and mouth
  1. The importance of brushing and washing, and using dental floss several times a day should be considered both from the sanitary point of view and from that of personal appearance and comfort
  2. Note that through the mouth may enter many of the communicable diseases, such as diphtheria, scarlet fever, typhoid fever, venereal diseases, etc.
  3. Impress the need of keeping all things except food and drink out of the mouth, such as pins, needles, fingers, especially things that have touched the lips or mouths of others—partially eaten food, fruit, gum, pencils.

C. Care of the nose
  1. Keep the hands, pencils, etc., away from the nose
  2. If exposed to irritating dust or to much dust and dirt wash out the nose with a weak salt and boiled warm water solution, blowing the nose afterward not at all, or very gently. (Eustachian tube and middle ear infection)
  3. Breathe through the nose
  4. Use a handkerchief frequently
  5. Colds

     a. Methods of transmission: by the spray from the nose and mouth in speaking, coughing and sneezing; by a towel, handkerchief, drinking glass, knives, forks, spoons, or dishes used by an infected person—here hold discussions of such things as lack of care of eating utensils and drinking glasses in restaurants and soda fountains—; by sitting in rooms where the air is too hot and too dry followed by exposure to any of the above or to dust of home, school, theatre, or street; by breathing through the mouth.

- b. Care should be taken when you have a cold: use own handkerchief, towel, utensils; cover mouth and nose when coughing and sneezing; keep away from the faces of others particularly of babies and young children; place all excretions in paper or cloth and burn these. If it is necessary to use a handkerchief, keep it from those of others and boil it.

D. Care of the eyes and ears
  1. Their value
  2. Causes and dangers or irritation and infection
  3. Their care and protection (See Appendix B)

E. Care of the body
  1. Elimination of wastes, relation to
    - a. Habit
    - b. Kinds of food
    - c. Amount of water taken in (Appendix N)
    - d. Posture

  2. Throat
    - a. Mouth breathing
    - b. Diseased tonsils. Causes of infection: dangers and need of removal if infected; infection from them of the heart, joints and general system
    - c. Enlarged glands. Causes: infection from decayed and infected teeth, from diseased tonsils, tuberculosis; dangers of infection of other parts
    - d. Goitre, particularly prevalent at this age
      Relation to diet

  3. Exercise
    - a. Need
    - b. Relation to age, sex and occupation
    - c. Dangers of over strain of the heart, abdominal muscles (hernia), general physique. Possibility of ruining a potentially great athlete by athletic excesses before the age of eighteen
    - d. Dangers to girls of too great physical activity, either in athletics or in such social activities as dancing at or about the time of menstruation
    - e. Kinds and severity of the different types of athletics, length of races, etc., that are suitable for different ages. No boy under 14 years of age nor any girl at any age

should throw the weights nor participate in a race of over 60 yards; no boy under 15 of over 100 yards; no boy under 16 of over 440 yards; no boy under 17 of over 880 yards; no boy under 18 of over 1,000 yards, and no boy of any age of over one mile. No boy under 16 should throw a weight heavier than the 8 pound shot; nor, if under 18, one heavier than the 12 pound shot.

F. Clothing: factors to be considered

1. Purpose

   a. Suitability to home, school, church, parties, gymnasium, athletics, hunting, fishing and camping
   b. Relation to weather and climate, whether dry or wet, arctic or tropical, to altitude, forest or prairie, shore or river
   c. Aesthetic considerations—as appearance, neatness, cleanliness

2. Durability

   Economy in good materials, correlating with domestic science, geography, commerce, etc., showing how to pick good materials, whence come the best raw materials, in what localities the best finished products are manufactured. Correlate with commercial geography. Increased length of service by pressing, cleaning and hanging up; oiling and cleaning of shoes, etc.
3. Beauty and attractiveness added to by simplicity, choice and combination of colors, combination of styles, etc.
4. Health and proper dressing
   a. Choice and care of shoes—weight, color, shape, softness, material
   b. Wet shoes, and rubbers over shoes
   c. Choice and care of stockings—cotton, lisle, silk, wool; sizes; washing, drying, pressing, repairing
   d. Advantage of frequent changes of stockings and shoes (Appendix F)
   e. Tight clothing: hats, collars, neckbands, belts, trousers, corsets, skirts, suspenders, garters. Should these be suspended from the waist, or circular; if circular, should they be placed above the knee where the big tendons behind the knee prevent squeezing of the arteries and veins, or below the knee where this squeezing takes place, often resulting in enlarged (varicose) veins.

- f. Too tight or too heavy clothing; dry clothing and wet clothing, why is wool better than cotton for cold, wet work
- g. Penalties of improper clothing
  Discomfort, illness, deformity, lack of efficiency
- h. The effect of improper clothing upon posture

5. Ethics and morals of dress

G. Foods

1. Respiration
   - a. Brief anatomy and physiology
     - (1) The act of breathing
     - (2) Combustion
     - (3) Obstructed air passages
     - (4) Deep breathing; value to digestion; to health in general

2. Constipation
   - a. Elimination of body waste (The body a furnace where ashes call for removal)
   - b. Avenues of elimination—skin, kidneys, intestinal tract and lungs
   - c. Relation of food and drink to elimination of undigested parts of diet
     - (1) Value of whole grain breads
     - (2) Value of bulky vegetables
     - (3) Value of fruits
     - (4) Value of drinking water—amount, when to drink etc. (See Appendix N)
   - d. Value of regular daily habits of elimination

3. Food deterioration
   - a. Causes
     - (1) Bacteria
     - (2) Yeasts
     - (3) Molds
   - b. Prevention
     - (1) By exclusion of air
     - (2) Protection from dirt and insects
     - (3) Refrigeration
     - (4) Sterilization
   - c. How does this subject relate directly to the
     - (1) Butcher shop
     - (2) Grocery store
     - (3) Milkman

        - (4) City market
    - d. Relation of food deterioration to the health of the individual, of the community

4. Milk*
    - a. Constituents (Proteins, carbohydrates, fat, minerals, water)
    - b. Laws regarding dairy products
        - (1) What constitutes adulteration, impurity, and unwholesomeness

        - (2) Testing milk
            - (a) Minimum content
    - c. Community's part in maintaining and enforcing laws regarding milk
    - d. Hygienic care of dairy products and of ice cream, in the city home or in the farm home
    - e. Discuss bottle method of distributing milk vs. open can method

5. Food combinations
    - a. Prepare menus for following on a minimum budget considering age, activity, and season
        - (1) Breakfast
        - (2) Dinner
        - (3) Supper or luncheon
        - (4) The three meals for Christmas day; Thanksgiving
    - b. Prepare a list of beverages suitable for warm weather—nourishing; refreshing

6. Transportation, distribution of, and demand for food as factors affecting
    - a. Cost of each article
    - b. "H. C. L."
    - c. The relation of the budget to the health of the individual; the family
    - d. Review the economic and hygienic advantages of using home-grown products
    - e. When it is justifiable to purchase foreign grown products
    - f. How the community can safeguard its food supply
        - (1) By food inspection (wholesale)
        - (2) By animal inspection
        - (3) By store and restaurant inspection

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* See Appendix C for further information on milk

    - g. A community's knowledge of its food conditions (purity, freshness, preservation, etc.) as a spur to enforcing food laws

- 7. Report-projects
    - a. List fifteen vegetables and fruits which tend to relieve constipation
    - b. Plan menus on cost-per-day basis for family of five—parents, brother 17, sister 12, and little brother 6—with specified sum to be spent
    - c. "Milk Campaigns": assigning pupils part in
    - d. List foods high in proteins; carbohydrates; fats; etc.
    - e. List foods rich in iron; lime; phosphorus
    - f. List foods rich in vitamines

H. Alcohol, Narcotics and Drugs

- 1. Alcohol
    - a. Physical effects
        - (1) Heart and blood vessels
        - (2) Brain
        - (3) Body
        - (4) Morals: lawlessness as well as other effects
        - (5) Lowering disease resistance
        - (6) Use as beverage a violation of law
    - b. Economic effects
        - (1) Use of farm land and labor
        - (2) Diversion of labor, transportation, storage and factories from other uses
        - (3) Cost to user and to his family
        - (4) Cost to the city, state and nation
    - c. Use in arts and industries
    - d. Alcohol and patent medicines

- 2. Narcotics
    - a. Opium, morphine, paregoric, soothing syrups, etc.
    - b. Cocaine, heroin, etc.
    - c. Patent medicines
    - d. Tobacco, snuff, etc.
        - (1) Physical effects, particularly upon the young growing individual
            - (a) Heart and blood vessels
            - (b) Brain
            - (c) Body—stature, athletics

- (2) Economic effects
  - (a) Use of farm land
  - (b) Diversion of farm labor, transportation, storage space and factories from other uses
  - (c) Cost to the user and to his family

Correlate with commercial geography. Emphasize dangers of using drugs even when prescribed by physician. Discuss mental, moral, physical and economic effects of all these.

I. Health and Civics

Show the interrelation of these topics through study, discussion and debate on laws relating to the purity and protection of foods, cold storage regulations, purity and use of drugs, control of alcohol, anti-spitting ordinances. Community studies covering the above topics should be organized with reports, praising good conditions, condemning bad ones, suggesting improvements and the means of securing them.

II. Industrial Hygiene

- A. Relation of industries to health because of
  - 1. Character of employment
    - a. Mining
      - (1) Hard work, confinement in dark, poorly ventilated places, accidents
    - b. Steel manufacturing
      - (1) Foul gases, high temperatures, long hours, accidents
    - c. Shipbuilding
      - (1) Lead poisoning
    - d. Mill operations
      - (1) Dust, gases, accidents
    - e. Dusty occupations
      - (1) Mining
      - (2) Flour mills
      - (3) Stone cutters
      - (4) Street sweepers
    - f. Chemical occupations
      - (1) Gases
      - (2) Plumbers
      - (3) Painters and paint manufacturing
      - (4) Manufacture of explosives (T. N. T.)

- g. Sedentary occupations
    - (1) Clerks
    - (2) Bookkeepers
    - (3) School teachers

2. Occupational dangers
    - a. Poisonings
        - (1) Lead
        - (2) Phosphorus
        - (3) Gases
    - b. Infections
        - (1) Anthrax: wool sorter's disease, tanners
        - (2) Typhoid: pure water supply
        - (3) Tuberculosis: hours of labor, air, sunshine, wages, housing
    - c. Accidents
        - (1) Mining
        - (2) Manufacturing explosives
        - (3) Asphyxiation (gas plants)
        - (4) Fires (factories)
        - (5) Steel

3. Working conditions
    - a. Ventilation
        - (1) Gases
        - (2) Dust
    - b. Temperature
    - c. Sunshine, or lack of it
    - d. Sanitary conditions
    - e. Number of working hours

4. Effects of wage scale on
    - a. Food
    - b. Housing Conditions
        - (1) Space
        - (2) Heating
        - (3) Ventilating
        - (4) Sunshine
        - (5) Sanitary conditions

- c. Recreation

    - (1) Daily
    - (2) Vacations

- d. Medical care

B. Health factors to be considered in choosing an occupation

1. Character of the work
    - a. Severe or mild muscular labor or sedentary in type—farming, mining, manufacturing, clerical
    - b. Outdoor or indoor
    - c. Pure air or foul
    - d. Dusty occupations: milling, quarrying, stone cutting, etc.
    - e. Chemical occupations: poisonous fumes, gases, etc.
    - f. Sunshine or darkness
    - g. Hot or cold
    - h. Dry or damp

2. Type of community in which different industries are located
    - a. Rural
    - b. Small city
    - c. Large city

3. Educational opportunities: churches, libraries, educational opportunities for workmen's children

4. Recreational facilities
    - a. Hours of labor, vacation periods
    - b. Play and recreation fields, parks, swimming-pools

III. Tuberculosis

A. Cause

1. Bacterium

2. Insanitary living and working conditions as
    - a. Lack of fresh air
    - b. Lack of sunshine
    - c. Lack of sufficient amount of sleep and rest
    - d. Lack of clean, nourishing food
    - e. Lack of recreation

  - f. Crowded homes, workshops, etc.
  - g. Dusty and gritty occupations

- 3. Ages when most prevalent
  - a. A disease of childhood, when it is usually contracted, the great increase in deaths coming just after the close of the school age period

B. Prevention

- 1. Cleanliness
  - a. Diminish dust
  - b. Stop spitting
  - c. Provide milk from non-tuberculous cows, or at least milk that has been pasteurized

- 2. Homes, schools, shops, factories, etc., should have plenty of
  - a. Fresh air
  - b. Sunshine

- 3. Clean, nourishing food such as
  - a. Clean milk from non-tuberculous cows
  - b. Eggs
  - c. Real butter
  - d. Cereals
  - e. Meats
  - f. Fresh fruits and vegetables

- 4. Plenty of rest, recreation and sleep in well ventilated rooms or out of doors
  - a. The properly ventilated bedroom
  - b. The sleeping porch

- 5. Teach everybody to cover mouth and nose when coughing or sneezing, never to spit, to deposit all material raised from throat or lungs in a paper or cloth which is later burned

- 6. Destroy all tuberculous cattle, or at least pasteurize all milk at a temperature of from 140° to 145° for thirty minutes

- 7. Annual, careful physical examination

IV. Health in Pennsylvania

A. Advantages of moderate climate, moderate dryness, elevation above sea level, mixture of city and rural conditions

State, city and town expenditures for health

C. Standing of state as shown by death rates. (See Appendix J)

D. Pennsylvania stands first of all the states in the amount spent, and second in the per capita spent for the activities of its State Board of Health (1921 figures). Discuss the need, cause, and advantages of this.

V. Medical progress and human welfare

A. The basis of medical progress

1. Anesthesia
   - a. Ether
   - b. Chloroform
   - c. Local anesthesia

2. The microscope
   - a. Chemistry
   - b. Biology

3. The science of bacteriology
   - a. Diseases of known bacterial origin: colds, tonsilitis, diphtheria, typhoid fever, tuberculosis, pneumonia, influenza, anthrax, venereal diseases, cholera, bubonic plague, tetanus, meningitis, etc.

4. Immunity—natural and acquired

Some persons do not contract certain diseases; for instance, after the age of sixty years its extremely rare for a person to have typhoid fever; a considerable proportion of children can not "catch" diphtheria. Such people are said to be immune to those diseases. Most people are said to be immune after once having had scarlet fever, mumps, chicken pox, or measles, as they do not contract such disease again. They have "acquired immunity" so far as the particular disease which they have had is concerned. As regards certain other diseases immunity is acquired by artificial processes; for instance, the person who has been recently vaccinated against smallpox almost never contracts the disease and then only in a mild form. Typhoid fever was banished from the American Army in the World War because every soldier was vaccinated against this fever.

B. The improving death rate

The life span has risen from 26 years some three hundred years ago to 51.5 years in 1910, and 54 years in 1920.

This improvement is due to a marked diminution of deaths for ages under 45 years, from such diseases as measles, diphtheria, scarlet fever, smallpox, typhoid fever, malaria and yellow fever, hook worm disease, typhus fever, bubonic plague, intestinal diseases of infants, and tuberculosis.

VI. Posture

A. Relation to habits of sitting, standing, walking
B. Relation to exercise
C. Relation to types of occupations
D. Relation to clothing

1. Tight collars, waists, waist bands, or belts
2. Corsets
3. Shoes—shape, size, high heels, etc.

The teaching of health in this grade will receive great impetus from tying it up with the organization of health leagues, girls' health leagues for infant care, exhibits, art competitions, demonstrations and campaigns. Every high school should have its own thoroughly organized health department with a commissioner of health in charge and a group of inspectors who criticize, aid and report school conditions. Where there is a school paper, there should be a health column or page in every issue.

OUTLINE

Grade X

I. The hygiene of the home
II. Our insect and vermin enemies
III. The romance of modern sanitation
IV. Posture

Grade XI

I. School hygiene
II. Rural hygiene
III. Feeding the family
IV. Home nursing course
V. Posture

Grade XII

I. Industrial hygiene
II. Care of the injured
III. Mental hygiene

IV. Community hygiene
V. Health and living

Grade X

Still with great emphasis on health habits, covering such factors as cleanliness; neatness; care of the teeth; comfortable, durable and modest clothing; selection of proper foods and care as to good table etiquette; fresh air; rest and exercise; we are now well into the tribal stage of development and things about the pupil which touch lives other than his own, are of great interest to him.

In the senior high school grades is the time to show the possibilities of the health habits of the home, school and community. Now, if ever in school life, is the golden hour for impressing upon him the duty of the individual and of the home, school and community each to the other.

Motto: On the home rests the responsibility for health.

I. The hygiene of the home
  A. The evolution of the modern house—the advantages and disadvantages of each type
    1. The tree
    2. The cave
    3. The cliff
    4. The tepee
    5. The dugout
    6. The lean-to
    7. The tent
    8. The log cabin and sod house
    9. The modern dwelling

      a. Single, double, where two apartments side by side, where one above the other, apartment houses—modern cliff dwellers

  B. Building sites

    1. Accessibility

      a. Railroads and trolleys
      b. Streams
      c. Highways

    2. Elevation

      a. Sunshine
      b. Drainage
      c. Ground water level—soil near the bottom of a hill is almost always too damp

    - d. Prevailing winds
    - e. Protection from storms

  - 3. Types of soil
    - a. Relation to ground water level
    - b. Discuss the effect on drainage, cellar dampness, water supply, sewage disposal
    - c. Ledge and rocks
    - d. Gravel and sand
    - e. Clay
    - f. Loam
    - g. Swamps

  - 4. Water supply
    - a. Accessibility
      - (1) Streams and ponds
      - (2) Springs
      - (3) Wells
    - b. Ground water level

  - 5. Sunshine and shade
    - a. South slope of a hill vs. north, east, or west slope
    - b. Trees: hard wood vs. evergreen

- C. The location of the house on the site
  - 1. Relation to base of hill, streams, swamps, trees and other factors affecting soil dampness
  - 2. Relation to outbuildings, if any, such as the barn and its barnyard, pig pens, hen houses, privy, well or other water supply
  - 3. The value and disadvantages of shade from deciduous trees and from evergreens
  - 4. Trees, shrubbery, flowers, garden space, etc.

- D. The water supply—its purity

  Discuss the advantages and disadvantages of the following types of supply. This is important to all as nearly everybody at times gets into the country on business or pleasure—boarding, camping, hiking, etc.

  - 1. Streams or rivers
    - a. Their possibilities for infection; considered such factors as other dwellings, barns, pig pens, privies, villages and towns, manufacturing plants, etc., located up stream

2. Springs

Here we should know something of the water shed above the spring, whether or not it is inhabited or infected; also the character of the soil, as, in limestone regions particularly, infected water may be carried long distances in underground channels which have been formed by the water dissolving out the lime. The awful toll of lives exacted from our soldiers at Chickamauga, Ga., during the Spanish War was largely due to ignorance or neglect of this fact, as the men used the water from so-called springs which were really underground rivers carrying the filth from farm houses higher up in the hills.

3. Cisterns

These usually get their water from the roof. How about this in a village where the infected street dust is blown to the roof? Is the cistern thoroughly cleaned and scrubbed at frequent intervals?

4. Wells

a. Discuss here not only the location as regards the factors mentioned under springs and streams, but the kind of well, its protection from surface drainage, etc.
b. Kinds: dug, bored, driven; advantages and disadvantages of each.
c. Types of soil: remember here that in coarse porous soils and limestones, infection may be carried long distances.

d. Protection

(1) A curb at least six inches high to prevent surface water getting in. This curb should be water proof and carried down into the well at least four feet.
(2) A tight, animal, insect, and water proof cover
(3) A pump, so that the water may not be infected by the hands, as it is in the old open well with chain and bucket—"the old 'germ laden' bucket."

e. Location

Such that drainage either above or below the surface of the ground may not reach it from privy, barnyard, or pig pen.

Emphasize the fact that the color, odor and taste of a water is no proof of its purity. It may be crystal-clear, odorless, be cool sparkling and delicious, and be loaded with the organisms of typhoid fever or dysentery.

Cooperate with the agricultural department of the school to secure literature, pictures, lantern slides and films on the relation of water supplies to hog cholera; on the character of soils, etc., and with chemistry classes on the purification of water by the use of chemicals.

E. Disposal of waste

1. Garbage

Much of this has a food value for hens and hogs. Places where they are fed should be cleaned up at least once each week and the gathered material burned. They should be fed in dry places so that flies may not breed on the garbage juices which are held in the soil. Garbage should be removed from the house daily; if not immediately fed it should be kept in fly tight and air tight receptacles, which are emptied at least once each week. These should be smeared with crude oil or unslacked lime. When not fed it should preferably be burned; failing this, buried in a pit, covered with unslacked lime at each dumping and when the mass reaches about 15 inches from the top, covered with sacking covered with fine earth. The sacking prevents flies getting in or maggots getting out.

2. Sewage: human refuse and animal

a. Types of disposal—on surface or ground, in shallow pits, deep pits, vault which is cleaned out at intervals, septic tank, sewer systems, etc.

b. Care of toilet

(1) Vermin and fly proof
(2) Frequent cleaning

c. Location

Unless there is an adequate sewer system, should be lower than the source of water supply, and so it cannot pollute any stream

d. Cleansing methods

(1) Removal of contents
(2) Use of chemicals such as crude oil, lime, etc.

e. If there is not adequate disposal system, contents should be burned, spread upon the soil and plowed in immediately, or treated with unslacked lime and buried deep. The State Health Dept. and the U. S. Public Health Service publish bulletins on water supply and sewage disposal.

f. The location of the barn, barnyard, pig pen, etc., as regards the house and well, drainage of these

F. The cellar: advantages of having a cellar under the whole house

1. Dampness: location, type of soil, kinds of walls, ventilation, water proofing

G. Orientation of the house as regards

1. Sunshine
2. Shade
3. Direction of hot and cold winds

H. Heating and ventilating*

1. Types of heating
   a. Fireplace
   b. Stove
   c. Furnace—hot air
   d. Radiators—hot water or steam
   e. Ventilating fans

2. Types of ventilating
   a. Natural—through cracks and open doors and windows. Use of window board and cheese cloth screen to prevent draft
   b. Fireplace
   c. Stove: jacketed and unjacketed
   d. Furnace—hot air
   e. Radiators
   f. Ventilating fans

      (1) Three types—pushing or plenum, pulling or vacuum, and a combination of pushing and pulling
   g. Comparative values of each type
   For instance, the fireplace wastes a large portion of the heat which the burning fuel produces, but ventilates ex-

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*Report: New York State Commission on Ventilation. Journal of the Outdoor Life January, 1923.

ceedingly well. The stove heats well, but is almost valueless as a ventilating arrangement

3. Health as related to the humidity of the air

4. Ventilation in the day time, during sleeping hours and in bedrooms, the sick room, the kitchen and dining rooms, and the living rooms

I. Cleaning methods

1. Rugs, carpets, etc.
   a. Discuss the comparative merits of dry sweeping, moist sweeping, beating, vacuum cleaning

2. Floors
   a. Discuss the advantages of hardwood polished floors, over soft, porous ones; relative merits of sweeping dry and moist, washing and vacuum cleaning

Note: Keep the baby off the floor, unless the floor has just been cleaned or is covered with a clean sheet on which the baby may play. Babies are peculiarly susceptible to tuberculosis and other infections. His hands are often in his mouth. If he plays on a dirty floor, dusty rug or carpet, he soon gets very dirty hands, puts these in his mouth, thus taking in the filth of the street, barnyard and even, sometimes, of the outhouse.

3. Dusting
   a. Feather duster
   b. "Dust" cloth
   c. Wiping with an oiled cloth

J. Lighting

1. Natural—windows, sun for kitchen, dining, living and sleeping rooms

2. Artificial
   a. Kerosene lamp; advantages and disadvantages
   b. Gas
      (1) Effects of gas combustion on the purity of air*
      (2) Dangers from leakage
   c. Electricity: direct vs. indirect
   d. Use of incandescent mantle for steadying and increasing the amount of light from gas
   e. Arrangement of lights for efficiency and eye protection

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*Vocational Educational Magazine, Vol. 1, No. 8, 1923.

        - (1) Ceiling lights
        - (2) Wall lights
        - (3) Table lamps
  - 3. Shades and draperies
    - a. Purpose of each
    - b. Color—light tan
    - c. Consistency—translucent
    - d. Arrangement of shades

      Should be raised fully to admit light and sunshine, and, if the windows are wide open, air

II. Our insect and vermin enemies

- A. The fly
  - 1. A menace to health and to life, infecting food and milk with the bacteria of such communicable diseases as typhoid fever and acute intestinal diseases, particularly in infants.
  - 2. Habits and breeding places
  - 3. Fly proofing of dining, living and sleeping rooms, kitchens, ice boxes, garbage cans, stables, barns, hog pens and privies.
  - 4. Methods of destruction of the fly, his young and of his breeding places.
- B. The mosquito
  - 1. Spreads malaria and yellow fever and disturbs rest and comfort
  - 2. Habits and breeding places
  - 3. Uses of screening and mosquito netting
  - 4. Methods of destruction
    - a. Screening
    - b. Draining swamps and ponds
    - c. Oiling swamps and ponds
    - d. The use of frogs and minnows
- C. The body louse
  - 1. Spreads typhus fever and is a sign of uncleanliness
  - 2. Habits and breeding places

    Lives mostly on unclean people and on their clothing
  - 3. Methods of destruction

a. Personal cleanliness, frequent bathing of the whole body, etc.

b. Treat clothing with boiling, baking, hot flat iron, gasoline

D. The flea

1. Spreads bubonic plague

2. Habits and breeding places

Lives on rats and squirrels until bubonic plague gets started, then the rats die and the fleas leave the rats and get on human beings, biting and infecting them.

3. Method of destruction

a. Keep rats out
b. Shut off their food supply by keeping grain and other food in metal containers or in rat proof storage rooms
c. Burn dead rats

E. Other insects

1. Enumerate those known

These mostly are head lice, bed bugs, cockroaches, etc. These serve no good purposes and are evidences of uncleanliness and careless living, but so far as known do not enter into the spread of disease

F. Rats

1. Very susceptible to bubonic plague because of filthy habits and the cause of the spread of this disease through harboring fleas

2. Cause great economic loss

3. Habits and breeding places

4. Methods of destruction

III. The romance of modern sanitation

A. Havana

1. Yellow fever
a. Method of transmission by special kind of mosquito
b. The heroic story of its discovery
c. How is its spread prevented?
Destroy mosquitoes and their breeding places

B. Panama Canal

1. Malaria and yellow fever
    a. Method of spread and control
2. Dysentery
    a. Method of spread and control
3. Colon: the "spotless town"
4. How were these results accomplished?

C. The Russo-Japanese War

1. Typhoid fever and other diarrheal diseases
    a. How spread and controlled
    b. Show how purity of water was controlled by bacteriologists traveling with the advance guard of troops, to examine wells and other water supplies
2. Beri Beri
    a. Cause and control
    b. Tie up with domestic science, agriculture (feeding of animals) and food selections

D. New Orleans

1. Malaria and yellow fever
    a. Cause and control
2. Bubonic plague
    a. Cause and control

E. The World War

1. Typhoid fever
    a. Control by sanitation and artificial immunity (vaccination)
2. Compare relative percentages of deaths from wounds and sickness in Civil War, Spanish American War and World War

F. Falling death rates

1. Brought about by
    a. Sanitation and immunity
    b. Typhoid, malaria, smallpox, diphtheria, tuberculosis, infant welfare
2. Effect of use of alcohol, stimulants, and narcotics in increasing the death rate

IV. Posture

  A. Its relation to the home

    1. The kitchen sink, which is usually too low, causing discomfort and round shoulders
    2. Carrying water from an outside well, spring or stream, or from pump or faucet to laundry tubs
    3. Carrying wood or other fuel
    4. Types of furniture; lounging vs. sitting erect
    5. The reading lamp; location as regards height above chairs and for proper grouping about it

  B. Posture habits

    1. Sitting
      a. Type of seat—proper position in it
    2. Standing: posture tests
    3. Walking and running
      a. Toes pointed straight ahead
    4. Effect of tight clothing, as collars, belts, waists, corsets, garters, shoes, etc.

  C. Competitions and record keeping

    1. Tests
    2. Charts of individuals and of the class
    3. Improvements

Grade XI

Stress upon good habits is still a great factor, always keeping in mind the age, and changing view point of pupils of this age. For the sake of these pupils and for the sake of the future of public education, special effort is made in this grade to interest them in, and to show the need and value of, proper schools and school conditions, always carrying into the health activities of the school information previously acquired regarding the individual and the home; and tieing up with them the home activities.
Motto: The school holds the key to the citadel of health.

I. School Hygiene (Appendix O)

  A. Fire proof construction

    1. Needs and advantages in
      a. Types of buildings

        (1) Single story
        (2) More than one story

        - (3) Elementary schools (small children)
        - (4) Secondary schools

- 2. Corridors
    - a. Width
    - b. Accessibility of stairs and fire escapes
    - c. Kinds of materials used in construction

- 3. Stairs and stairways
    - a. Width
    - b. Number of stairways and relation to exits
    - c. Materials used in construction

- 4. Exits
    - a. Number and location

- 5. A celebrated school architect has said that "A fire escape on a school building is an acknowledgment of architectural incompetency." Discuss the reasons for and against his statement.

B. Classroom

- 1. Area per pupil
- 2. Height of walls
- 3. Cubic content per pupil

C. Seating of pupils

- 1. Trace the development of the modern seat from the split log of log cabin days
- 2. Essentials of the school seat
- 3. The school seat should fit the pupil. This may be brought about either by providing in each classroom
    - a. Several sizes of seats
    - b. Adjustable seats
- 4. The effect of ill-fitting seats
    - a. Mental
    - b. Physical—posture

D. Lighting of classrooms

- 1. Window area: 20% of the floor area
- 2. Window location
    - a. To the left of the pupils

      In rare circumstances it is possible to supplement this with windows placed high up on the right
    - b. Windows should extend to the ceiling

3. Nearness of other structures
4. Cleanliness of glass
5. Window shades
    - a. Translucent and light tan in color
    - b. Type of shade fixtures
        - (1) The adjustable roller for adjusting at any height
        - (2) The non-adjustable roller. When these are used they should be fixed six to eight inches from the top of the window to admit air
        - (3) The double shade, fixed one at the top and one at the bottom, or two in the center

E. Blackboards

1. Size
2. Height from floor for different grades and sizes of pupils
3. Materials
4. Necessity for keeping them clean and black or dark green
5. Cleaning methods
    - a. Wiping with cloths or erasers
    - b. Washing

F. Heating and ventilating*

1. Different methods of heating
    - a. Fireplace
    - b. Air tight stove
    - c. Jacketed stove
    - d. Hot air furnace
    - e. Hot water and steam

2. Different methods of ventilating
    - a. All mentioned under No. 1
    - b. Fan ventilation
        - (1) Forcing air into classrooms—the plenum system
        - (2) Pulling air out of classrooms—the vacuum system
        - (3) The combination of the plenum and vacuum—double fan system
    - c. Open window ventilating
        - (1) Desirability, at times at least, of opening windows regardless of other ventilating means
        - (2) How to get best results
            - (a) Opening all, top and bottom
            - (b) Use of window board

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*Report: New York State Commission on Ventilation Journal of Outdoor Life, January, 1923.

Discuss all these methods of heating and ventilating, showing the advantages and disadvantages of each as regards both heating cost and efficiency, and ventilating cost and efficiency. Demonstrate by tests the efficiency or lack of it in your classroom by holding a lighted candle or smoke smudge near the source of ventilation.

G. Toilets

- 1. Location
  - a. Outside main building
  - b. Within main building
    - (1) In basement
    - (2) On same floor as classrooms
  - c. Advantages and disadvantages
    - (1) Aesthetic
    - (2) Sanitary and health
- 2. Type
  - a. With running water if possible
  - b. Surface, earth pit, tank, etc.
- 3. Care of toilets
  - a. Fly proofing
  - b. Painting
    - (1) In light colors for attractiveness, and because they are more likely to be kept neat and clean.

H. Gymnasium

- 1. Need and value
- 2. Size and location
- 3. Use
  - a. During school hours
  - b. After school use by pupils
  - c. Evening use by older persons

I. Playground

- 1. Need and value
- 2. Size and location
- 3. Use
  - a. As a part of the school program
  - b. After school activities
  - c. Evening activities
  - d. Summer activities

J. Relation of gymnasium and of playground to physical education, athletics and social center activities

K. Cleaning methods

1. Sweeping floors
    - a. Dry sweeping
    - b. Sweeping preceded by light sprinkling with water or with moistened bits of paper or moistened or oiled sawdust
    - c. Vacuum cleaning
    - d. Washing floors
    - e. Discuss the different kinds of woods and other materials used in floors and note the advantage of a hard, closely grained wood like maple, or of some non-porous waterproof material
    - f. Dusting methods
        - (1) Feather duster a relic of ignorance
        - (2) Dust by wiping up dust, preferably with an oiled cloth

L. Open air classes and tuberculosis prevention

II. Rural hygiene

A. Location of house

1. On the chosen site
2. In relation to other buildings

B. Water supply

C. Garbage and sewage disposal

D. Drainage
1. House
2. Barn and barnyard
3. Pig pen, etc.

E. Care of stock
1. Shelter
2. Fresh air and sunshine
3. Feeding
4. Protection from infection

F. Care of milk (Appendix C)
1. Cleanliness in milking
2. Cooling of milk
3. Keeping milk cold during storage and delivery
4. Protect milk from flies and rodents

Where there is an agricultural course the work in Health Education should be woven into that course. Coordinate with art for poster exhibits, with civics for stock protection laws.

III. Feeding the family

A. Composition of foods

1. Food stuffs, e. g. protein, carbohydrates, fat
    - a. Function
        - (1) To build and repair tissue
        - (2) To furnish heat and energy
        - (3) To regulate body processes
        - (List foods high in protein; carbohydrate; fat)

2. Mineral elements, e. g. iron, calcium, phosphorus
    - a. Use
        - (1) To regulate body processes
        - (2) To stimulate activity, etc.
        - (List foods high in iron; calcium; phosphorus)

3. Vitamines
    - a. Function
    - b. Classes
    - c. Relation to growth
    - d. Effect of heat on
    - (List foods which contain vitamines)

4. Water
    - a. Function
        - (1) Serves as carrier and dissolver for food material
        - (2) Aids internal processes

B. Normal nutrition in individual
1. Digestion
    - a. Chemical changes
        - (1) By saliva
        - (2) By gastric juice
        - (3) By intestinal juices
    - b. Influence which hasten or retard digestion

2. Process of absorption
    - a. The absorbing surface
    - b. Routes traveled by protein; by carbohydrate; by fats

3. Circulation
    - a. Blood and lymph
        - (1) Uses of blood
            - (a) Carrier to cells of substance for their renewal
            - (b) Carrier from cells of waste

    - b. Lymph
        - (1) Channels
        - (2) Movement

        - (3) Uses

- C. The calorie—a standard of measurement
  - 1. Definition of
  - 2. The 100-calorie portion
    - a. Demonstration of weight and measure of 100-calorie portion of common foods
    - b. Individual calculation
      - (1) Method
      - (2) Value of

- D. Food requirements
  - 1. Conditions affecting, e. g. size, activity, growth, climate, age, etc.
  - 2. Of the baby
  - 3. Of children from one to twelve
  - 4. Of adolescent boy or girl
  - 5. Of the adult man as compared to child or boy
  - 6. Of the adult woman as compared to girl

- E. Budget
  - 1. Meaning of and how to plan
  - 2. Factors affecting cost of food
    - a. Source of supply—near or far
    - b. Middleman
    - c. Perishableness
    - d. Seasonableness
    - e. Method of cooking
    - f. Intelligent buying
      - (1) Planning market order in advance
        - (a) Perishable foods by week
        - (b) Staple foods by month or longer
      - (2) Economic buying
        - (a) Comparison of
      - (x) Commercially cooked and home cooked products
      - (y) Home grown and imported products
      - (z) Scarcity and ample supply
      - (3) Relative economy of foods
        - (a) Whole vs. skim milk
        - (b) Cooked cereals vs. ready prepared
        - (c) Dairy products vs. meat (for the child)
      - (4) Expenditure for typical foods in proportion to the need in dietary

        - (a) Total expended for milk should equal or exceed that for meat
        - (b) Total expended for fruit and vegetables should equal or exceed that for meat

- F. Care of food in the home
    - 1. Upon receipt from the market or garden
    - 2. As prepared for cooking

    Preservation in ice box
    - a. Sanitation of
    - b. Temperature of
        - (1) Construction of ice box
        - (2) Maximum efficiency
    - c. Proper placement of different types of foods as dairy products, meats, vegetables and fruits

- G. Care of the food in other places
    - 1. Cellar, farm dairy house, spring house, well
        - a. Protection from dirt, flies, etc.
        - b. Cleanliness of cellars, dairy houses, etc.
        - c. Temperature

- H. Planning diets, and menus (individual; family group)
    - 1. Diets
        - a. Baby—See Girls' Health League, Grade VIII

        Children's diseases
    - 2. Menus
        - a. Children (age from one to twelve)
        - b. Adolescent

          Menus suitable for camp life and athletics may be studied
        - c. Adult man and woman

          Age, activity, season, and money to be spent must be considered

IV. Home hygiene and care of the sick*

- A. Causes and prevention of sickness
- B. Health and the home
- C. Babies and their care
- D. Indications of sickness
- E. Equipment and care of the sick room

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*This is the course in Home Hygiene and Care of the Sick recommended by the American Red Cross.

        1. Beds and bedmaking
        2. Baths and bathing
        3. Appliances and methods for the sick room
        4. Feeding the sick
        5. Medicines and other remedies
        6. Application of heat, cold and counter-irritants

    F. Care of patients with communicable diseases
    G. Common ailments and emergencies
    H. Special points in the care of children, convalescents, chronics and the aged

V. Alcohol, stimulants, and narcotics
VI. Posture

    A. Habits of sitting, standing and walking
    B. Effect of school

        1. Activities
            a. Laboratory work
            b. Desk work
            c. Physical Education

        2. Furniture
        3. Lighting
        4. Vision

    C. Rural occupations and posture
        1. Weight bearing
        2. One sided tasks
            a. Pumping water; grindstone turning; hand feed cutters; churning; other one handed tasks
        3. Special activities
            a. Cotton picking and lateral curvature

Grade XII

This grade is the best, and the last opportunity of the public schools to bind together all the health habits and information previously acquired, and to build up a proper cooperative attitude of budding citizens toward all health activities of the community. The effort should be, not only to show the duty of the individual to the family and to the community, but also to show that the community has a health duty to its citizens, particularly to its weaker units and to its children, "even to the least of these."

Motto: True education leads to "Neither life nor the getting of a living, but living together."

- I. Industrial Hygiene
  - A. Factories
    - 1. Fires and their prevention
    - 2. Accidents and their prevention
      - a. Prevalence of accidents
      - b. The personal factor
        - (1) Age
        - (2) Sex
        - (3) Carelessness
      - c. Causes of accidents
        - (1) Type of work
        - (2) Crowding
        - (3) Fatigue—hours of labor
        - (4) Unprotected machinery
        - (5) Poor lighting
        - (6) Use of alcohol, stimulants, and narcotics
    - 3. Sanitation
      - a. Water supply
      - b. Toilets
    - 4. Heating and ventilating
      - a. Temperature
      - b. Humidity
      - c. Dust
      - d. Gases and fumes
  - B. Industrial dusts and dusty trades
    - 1. Dust and its effect on health (tuberculosis)
    - 2. Dusty trades
      - a. Foundry workers
      - b. Metal grinders and polishers
      - c. Stone cutters and grinders
      - d. Vegetable dusts, as cotton workers
      - e. Animal dusts, as fur workers
    - 3. Prevention of dusts
    - 4. Protection from dusts
  - C. Poisons in industry
    - 1. Lead
      - a. Paint manufacturing and painters
      - b. Printers
    - 2. Arsenic
    - 3. Phosphorus
    - 4. Prevention and protection

D. Other dangerous trades

  1. Mining

E. Factory legislation and inspection

  1. Licensing
  2. Fire protection
  3. Lighting
  4. Ventilating
  5. Sanitary protection
  6. Supervision and inspection

F. Welfare work in industry

  1. Medical examination of workers
  2. Efficiency and fatigue
  3. Lunching facilities
  4. Emergency room for
     a. Accidents
     b. Sickness
  5. Nursing service
     a. At the industrial plant
     b. At the homes of the workers

G. Safety fundamentals

  1. Heating and ventilating
  2. Lighting
  3. Arrangement of machinery
  4. Guarding machinery
  5. Good vision
  6. Protective clothing
     a. Men
     b. Women
  7. Safety education of employes

II. Care of the injured

A. Structure and mechanism of the body

The body: joints, muscles, circulation, respiratory system, digestive system, nervous system, special senses, the skin. (This is to be very brief and only the most fundamental material given.)

B. First Aid material

Bandages, compresses, plasters, collodion and similar substances, tourniquets, heat, cold, stimulants, emetics.

C. General directions for rendering first aid:

Keep crowd away. Loosen clothing if tight. Check hemorrhage. Protect wounds, brace and make firm broken bones. Treat shock or collapse if present.

D. Injuries in which skin is *not* pierced or broken.
Bruises, strains, sprains, dislocation, fractures

E. Injuries in which the skin is pierced or broken
Wounds and hemorrhage, nose bleed, internal or hidden hemorrhage, abdominal wounds, wounds in which foreign bodies remain

F. Injuries from heat, cold and electricity
Burns, scalds, including burns from electricity, frostbite

G. Unconsciousness, partial and complete
Causes: shock, electric shock, fainting, hemorrhage, alcoholism, apoplexy and brain injuries, sunstroke, heat exhaustion, freezing, suffocation.

H. Poisoning

a. Sources—herbs, shrubs, toadstools, drugs. These last should be destroyed by fire, not turned upon the dump for children to find
b. Kinds—acids, alkalies, narcotics

I. Carrying the injured

Fractures and pains, hemorrhage, sunstrokes, and heat prostration, poisons, exhaustion

J. Injuries and emergencies of athletics and sports

Gymnasium, baseball, football, celebrating Fourth of July, boating, skating, swimming, shooting, fishing, automobiling, camping and summer outings.

K. Common emergencies—cramp, colic, diarrhea, constipation, nausea, vomiting, hiccough, chill from exposure, nervous attacks, croup, neuralgia of face, toothache, earache, sties, prickly heat, chilblains, corns

L. Emergency supplies for the home

III. Mental Hygiene

The teacher should keep constantly in mind the close interrelation of the physical side and the mental. All the factors touching the individual's life have bearing on his mental reactions.

- A. Health habits relating to
  - 1. Rest
  - 2. Sleep
  - 3. Recreation

- B. Physical condition and habits of mind
  - 1. Worry—optimism
  - 2. Sloth—vigor
  - 3. Irascibility—mental balance
  - 4. Posture—poise and personality

- C. Attitudes of mind
  - 1. Jealousy vs. confidence
  - 2. Anger vs. calmness
  - 3. Grudges vs. forgiveness
  - 4. Fear vs. courage
  - 5. Worry vs. good cheer

- D. Use of alcohol, stimulants, and narcotics

IV. Community Hygiene

This section of the course in Health Education should be closely coordinated with that of civics, particularly those phases related to the organization and powers of official bodies and boards.

- A. The duties of the individual toward the health of the community
  - 1. Personal cleanliness
  - 2. Observance of regulations and laws designed to guard health
    - a. Checking the spread of communicable diseases
      - (1) Isolation
      - (2) Quarantine
      - (3) Destruction of excreta
      - (4) Avoidance of careless habits
        - (a) Use personal drinking glass
        - (b) Do not spit
  - 3. Observance of fire prevention regulations in home, school, industry and community

- B. Duties of the family to the community health
  - 1. Cleanliness
  - 2. Proper disposal of
    - a. Garbage
    - b. Sewage

    - c. Other refuse
        - (1) Its relation to fires and spread of disease
  - 3. Observance of quarantine regulations when any communicable disease exists in the home

- C. Duties of school officials, teachers, parents and pupils to the community health
  - 1. Proper school buildings and premises to protect pupils, teachers and janitors
    - a. Planning and construction
    - b. Sanitary care
  - 2. Assistance to health officials
    - a. Finding and notifying of contagious diseases
    - b. Proper, thorough, and frequent physical examinations of pupils, teachers and janitors
    - c. Immediate correction of physical defects found

- D. Duties of the community to its citizens
  - 1. Proper schools
  - 2. Proper recreation
  - 3. Proper control of industries in their relation to the health of their employes
  - 4. Proper control of the sale of food, drugs, narcotics and alcohol.
  - 5. Properly financed, controlled and organized health department. Through coordination with civics classes, pupils should work out plans for health department organization and finance, and proper health regulations

- E. Special health duties of towns, counties, state and nation
  - 1. Provision of hospitals for
    - a. Isolation of communicable diseases
    - b. The care of other sick
      - (1) Dispensaries
      - (2) Hospitals
    - c. The care of tuberculosis
    - d. The care of the insane
    - e. The care of the feeble-minded
    - f. The care of the blind and deaf
    - g. Correctional institutions such as
      - (1) Reform schools
      - (2) Jails
      - (3) Prisons
  - 2. Health ordinances and laws concerning
    - a. Industry
    - b. Smoke and gases
    - c. Garbage, sewage and rubbish disposal

        - d. Fires and fire exits, fire escapes, rubbish burning
        - e. Care of water supply

- F. Semi-private organizations which aid a health program
    - 1. American Red Cross
    - 2. National, State, County and local Tuberculosis Associations
    - 3. Child Health organizations
    - 4. Y. M. C. A. and Y. W. C. A.
    - 5. Boy Scouts and Girl Scouts
    - 6. Parent-Teachers' associations
    - 7. Others existing in the community
- G. Local community study

V. Health and living

- A. The value of health to the
    - 1. Individual
    - 2. Family
    - 3. Community
- B. The value of habits
    - 1. The purpose of health habits
    - 2. The forming of health habits
- C. The function of recreation
    - 1. Physical activities
        - a. Gymnastics
        - b. Play, games, athletics, and sports
        - c. Gymnasia and playgrounds
        - d Recreational clubs
    - 2. Social activities
        - a. Parties
        - b. Entertainments
            - (1) Concerts
            - (2) Lectures
            - (3) Debates
            - (4) The theatre
- D. Posture and health
    - 1. Carriage, power and vigor
    - 2. Circulation and respiration
    - 3. Digestion and metabolism
    - 4. The attainment of proper posture through
        - a. Habit

b. Proper furniture
c. Exercise

APPENDICES

The following appendices are published in order that teachers may have essential material that is in no other way readily available.

Appendix A....Care of the Teeth and Mouth
" B....Care of the Eyes
" C....Clean Milk
" D....Trips and Excursions
" E....Accident Prevention
" F....Care of the Feet and Shoe Fitting
" G....Corrective Exercises & Postural Games
" H....Health Exhibits
" I....Weighing and Measuring
" J....Comparative Death Rates
" K....Physical Activities at Various Ages
" L....Health Habit Score Cards
" M....Suggestive Lessons and Methods
" N....Food Habits
" O....Classroom Hygiene
" P....Signs of Illness
" Q....Health Department; State and School

APPENDIX A

Care of the Teeth and Mouth

The following very explicit directions on the care of the teeth and mouth are issued by the City Board of Health of Bridgeport, Conn.

How can we remove all the food from all the surfaces of all the teeth after each meal?

1. By brushing
2. By using floss silk between the teeth
3. By thoroughly rinsing the mouth with lime water

Brushing

1. Outside surfaces of teeth and gums of both upper and lower jaws

2. (a) Inside surfaces of upper teeth and gums

    (b) Inside surfaces of lower teeth and gums

3. Tops, or grinding surfaces of all the teeth

1. Outside surfaces

Place the tooth brush inside left cheek and on upper gums and nearly close the teeth together. Make the brush go backward and downward to lower gums, then slightly forward and upward until it has traveled a complete circle. This circular motion should be done rapidly so that the gums will be stimulated and the teeth cleansed of food.

Keep up this fast circular motion and brush all the teeth on the left side as well as all of the front teeth. Do not brush the teeth and gums crosswise. Now brush the right side with the same circular motion, or reversing the circle if found more convenient. Brush long enough to thoroughly stimulate the gums and cleanse the teeth, going back and forth over all the surfaces several times.

2. (a) Inside surfaces of upper teeth and roof of mouth.

With the bristles of the brush pointing upward and the end of the thumb on the back of the handle, brush the roof of the mouth and the inside gums and surfaces of the teeth with a fast in-and-out stroke, reaching back on the gums as far as you can go. Go back and forth across the roof of the mouth with this in-and-out stroke at least four times.

(b) Inside surfaces of lower teeth and gums. Hold the handle of the tooth brush in your fist with the thumb lying across the back of the handle and brush the gums and teeth with an in-and-out stroke, using chiefly the tuft end or toe of the brush. Reach back in the mouth on the gums below the last tooth on both sides and brush with a fast, light, in-and-out stroke. Tip the handle of the brush up in brushing the gums back of the lower front teeth.

3. Top of teeth or grinding surfaces

Lastly, brush the teeth with an in-and-out stroke on the surfaces on which you chew, as the food must be removed from the grooves or fissures of the molars.

Rules to Remember

1. Brush four times a day.

Before breakfast, with clear water

After each meal, with a tooth paste or powder

The teeth must be clean and free from food before going to bed as most of the decay takes place while sleeping

2. Brush two minutes each time. Two minutes by the clock; it takes two minutes of brushing properly to stimulate the gums and thoroughly cleanse the teeth. Be sure to brush the gums.

3. Do not use pressure with the brush. A fast, light stroke is the best.

A brush should never be worn out by having its bristles flattened and spread out.

4. Never allow any one to use your brush: Disease germs may be easily carried from one mouth to another, readily causing sickness.

5. Candies, sugar, crackers, cakes, pastries, bread, will all decay the teeth if allowed to remain on their surfaces.

Floss Silk

Four-fifths of the decay of teeth takes place on the surfaces between the teeth and on the surfaces on which you chew. There is but one way which is effective in removing the food from between the teeth and that is with a piece of floss silk.

Use a section of floss about twelve inches long. Hold one end between the thumb and first finger of the left hand and wrap the floss twice around the end of the first finger. Do the same with the thumb and first finger of the right hand. Now by using combinations of the ends of the thumbs and second fingers the floss may be carried into the mouth and forced carefully between all the teeth. Rub it back and forth against the surfaces of each tooth to loosen and remove the food and to clean these surfaces. After a little practice one can floss all the surfaces between the teeth in a minute's time. There still remains on the surfaces of the teeth, especially between them, a glue-like deposit known as mucin. This mucin must be removed, as it allows the bacteria to cling to these surfaces. The most effective and harmless solvent to use as a mouth wash is lime water. In fact, if but one thing could be used to prevent decay of the teeth, lime water used three times daily would prove to be the most valuable.

Five cents worth of coarse, unslacked lime, such as the masons use for coarse plaster, will keep a whole family supplied with the best kind of mouth wash for a whole year. The refined lime that the druggist sells does not seem to have the same solvent action. Perhaps the refined process robs it of some of its virtues.

Secure from a paint store a lump of coarse lime and crush it into a fine powder. Place a half cupful in an empty quart bottle and fill nearly full with cold water. Thoroughly shake and then allow the lime to settle to the bottom of the bottle, which will take several hours. After it has settled pour down the sink as much of the clear water as you can without losing any of the lime, so this first mixing contains the washing of the lime. Again fill with cold water, shake well and allow it again to settle.

Into an empty twelve ounce bottle pour the clear lime water, taking care not to stir up the lime in the bottom of the bottle, now place the quart bottle under the faucet and fill with cold water, shake thoroughly and set it aside to use when the smaller bottle becomes empty. This process may be repeated until the half cup of lime has made five or six quarts of mouth wash.

The twelve ounce bottle is used as it is more easily handled at the wash bowl. After brushing and flossing the teeth, pour out a little of the lime water in a glass, taking it in the mouth, force it back and forth between the teeth with the tongue and cheeks until it foams. If you rinse it long enough to make it foam, it has then been in the mouth long enough to have a beneficial action on the teeth. After spitting it out, rinse the mouth with clear water to take away the taste of the lime. If the lime water is a little strong at first, dilute it with clear water in the small bottle, half and half. It should be used clear and full strength as soon as the gums become hard and healthy from brushing.

If you secure a clean, dry Mason jar, quart size, nearly any druggist will put up the following formula for a tooth powder, for 25 cents. Do not use it immediately but shake it thoroughly, now and then, for the first twenty-four hours. This will mix the powders and permit the oils to have sufficient time to permeate all of the ingredients.

When using, place some of the powder in a small, wide mouth bottle and then shake some of the powder onto the tooth brush that has previously been thoroughly wet. Keep the bottle and the Mason jar tightly closed.

Formula for Tooth Powder

Finest grade English precipitated chalk	½ pound
Powdered Castile soap	1¾ ounces
Light carbonate of magnesia	⅓ ounce
Oil of clove	46 drops
Oil of wintergreen	35 drops
Oil of sassafras	35 drops
Oil of peppermint	18 drops
Saccharine—finely powdered	4 grains

The following excellent suggestions are part of those issued by the Forsythe Dental Infirmary for Children, of Boston Mass.

"Every child's teeth should be examined by the dentist when they have erupted as shown by this chart, which will be at the age of two to four years for Fig. I, and six to seven years for Fig. II.

Every Child Should Begin His School Career With Clean And Sound Teeth

Fig. 1

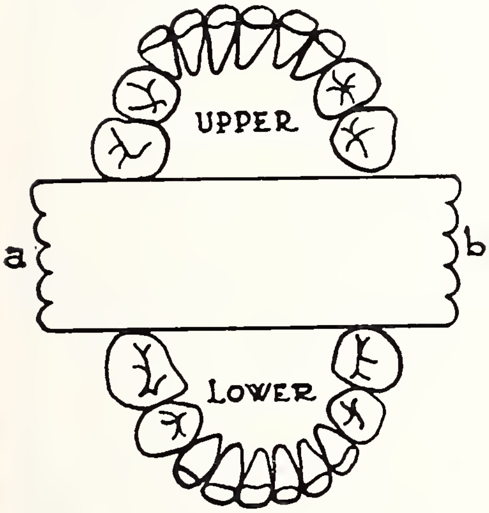
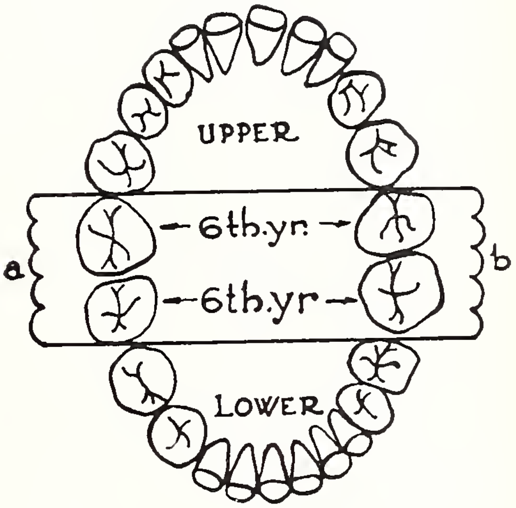


Fig. II



Systematic cleansing with a tooth brush should begin as soon as one tooth appears.

APPENDIX B

Care of the Eyes

The following are the suggestions issued by the National Committee for the Prevention of Blindness, Inc., for prevention of eyestrain.

1. Don't judge illumination by the brightness of the lamps. A well-shaded lamp may look dim, because it is well shaded, but yet be giving first-class light for working purposes. Judge the light by the way it helps you to see what you are looking at.

2. Don't work in a flickering light.

3. Don't expose the eyes to an unshaded light.

4. Don't face the light. When reading or writing it is best to have the light come from the left and from above the shoulder, so that no shadow will be cast on the page which you are reading.

5. Don't let lamps and globes get dirty.

Use light wall-paper or tinting. Dark walls absorb light instead of reflecting it. With a very dark wall paper or dark wood finish three of four times as much light may be required as with a really light finish. Reds, greens and browns reflect only ten to fifteen per cent of the light which falls on them. White, cream color, and light yellowish tints reflect over one-half of the light. If a good local artificial light is used, there is no disadvantage in having the rest of the room only slightly illuminated.

Give your eyes every advantage when using them in artificial light.

In addition to these suggestions the following precautions should be observed:

Window shades should be light tan and translucent, and should be drawn only when the sun shines on pupils, desks or boards, in such a manner as to cause an eye straining glare, or when there is a glare from some adjacent building, fence, snow, etc. Shades should be attached to an adjustable roller so that any part of the window may be covered without covering all.

School desks and other wood work in the classroom should have a dull finish, never a glistening one as this causes bad reflections and glares.

Blackboards should be black, not cracked, streaked, dim, or dusty, and should be kept clean. They absorb an immense amount of light, and should therefore be as small as possible. They should be so placed that light falls upon them from the left rear when pupils are facing them. Blackboards should never be placed between windows.

Do not read or study in a poor light, while in a moving vehicle, nor while in a reclining position.

Defective eyesight should be suspected and the vision tested when a child (1) in a back row can not read what is written on the blackboard; (2) can not tell the time by the clock at a little distance; (3) fails to keep to the lines when writing; (4) misses out small words when reading; (5) habitually holds a book nearer to the eyes than twelve inches when reading; (6) complains that the letters run into one another; (7) squints, even if only occasionally; (8) complains of tiredness of the eyes or frontal headache after reading or sewing.

Accidents to the eyes are sometimes, though rarely, unavoidable. Dust, splinters, bits of steel or stone, and other fine particles endanger the eyes of children or adults. Immediate removal is important. This should be done only by a physician who has had special training in the accidents and diseases of the eyes. Until removal is possible, protect the eye with a pad or bandage. Never rub it nor pick at it with any hard instrument.

Some eye diseases are extremely contagious and likely to result in loss of sight. Do not bathe the eye with anything that is not absolutely clean, nor has been used by another.

No inflammation of the eye, however slight, should ever be neglected. In babies, inflammation of the eyes (Ophthalmia Neonatorum, or babies' sore eyes) may cause blindness in a very few days unless treated by a physician experienced with the disease, and helped by a trained nurse. Older children, with watery and inflamed eyes (suffering from various forms of Keratitis, so called), may lose good eyesight unless skillfully and steadily treated. And people in mid-life, whose vision begins to fail in either eye, may have some serious disease and become totally blind. They should put themselves in an oculist's hands without loss of time.

"Warnings of eye trouble

Improperly fitted glasses, or lack of glasses, or eye diseases cause many symptoms which are warnings that something should be done; for example, Headaches, eyeaches, or tired feelings on using the eyes, blurred vision, inflammation or soreness of eyes or lids, watery eyes, swelling, puffiness or drooping of lids

(These symptoms are warnings."*)

A chart is here presented so that any teacher may satisfy herself as to whether or not her pupils have normal vision. The normal eye reads readily the bottom line (marked 20 ft.) at a distance of 20 ft. if the light is good. When pupils fail to do this, the school physician, school nurse or parent should be notified immediately. All that is needed in addition to this chart is a clear light falling upon the chart, from the rear of the child or from such a direction that there is no glare in the pupil's eyes, and a distance of 20 feet for the child to look across.

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*National Committee for the Prevention of Blindness, 130 E. 22 St., N.Y.

70 Ft.

D L N

50 Ft.

P T E R

40 Ft.

F Z B D E

30 Ft.

O F L C T G

20 Ft.

A P E O R T D Z

The following constitutes Appendix No. 1 of the United States Bureau of Education, Bulletin No. 65, 1919 on "Eyesight of School Children."

APPENDIX I.

(From the Report on Influence of Schoolbooks upon Eyesight, by the British Association for the Advancement of Science, 1913.)

SPECIMENS OF TYPE.

The committee draws attention to the fact that there is considerable variation in size of the faces of the various types coming under the same rating in point body, bearing the same trade description. The following specimens are inserted for the purpose of illustrating the dimensional rules proposed by the committee in the standard table below. The committee does not undertake to recommend these or other individual designs of type.

For the purpose of testing books, reference should be made to the standard table, as in several instances the specimens exceed the minimum requirements.

Standard typographical table.

[1 inch—25.4 mm.]

Age of reader	Minimum height of face of short letters.	Minimum length of alphabet of small letters.	Minimum interlinear space.	Maximum number of lines per vertical 100 mm. or 4 inches	Maximum length or measure of line.
	Mm.	Mm.	Mm.		Mm.
Under 7 years,	3.5	96	6.5	10	----------
7 to 8 years,	2.5	72	4.0	15	100 or 4 in.
8 to 9 years,	2.0	55	2.9	20	93 or 3⅔ in.
9 to 12 years,	1.8	50	2.4	22	93 or 3⅔ in.
Over 12 years,	1.58 or 1/16 in.	47	2.2	24	93 or 3⅔ in.

*Care of the Eyes**

*Care of the Eyes**	
Rhimes for Good Eyes	Winifred Hathaway
Pete	" "
Ellie's Wishes	" "
The Crystal Drops	" "
Why Ned's Example Wouldn't Come Right	" "
The Glorious Fourth (playlet)	" "
Uncle Jim and the Bramble Bushes	" "
The Fisherman and the Genie	" "
Saving the Sight of Children	Walter Baer Weidler, M. D.

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*Published by the National Committee for the Prevention of Blindness, 130 East 22d Street, New York City.

UNDER SEVEN

This type may be used for books to be read by children under seven. The letters are larger than the minimum given in the typographical table. Printed from 30[1] Point Old Style.

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[1] In corresponding American font this type is 24 point.

UNDER SEVEN

This type may be used for books to be read by children under seven. The letters are larger than the minimum given in the typographical table. Printed from 24 Point Old Style.

UNDER SEVEN

This type may be used for books to be read by children under seven. The letters are larger than the minimum given in the typographical table. Printed from 24 Point Old Style Antique.

AGE SEVEN TO EIGHT

This type may be used for books to be read by children from seven to eight years old. The letters are larger than the minimum given in the typographical table. Printed from Eighteen Point Old Style Antique.

AGE SEVEN TO EIGHT

This type may be used for books to be read by children from seven to eight years old. The letters are larger than the minimum given in a typographical table. Printed from Eighteen Point Old Style, with a 2 point Leading.

AGE SEVEN TO EIGHT

This type may be used for books to be read by children from seven to eight years old. The letters are slightly larger than the minimum given in the typographical table. Printed from Old Style Great Primer with 3 Point Leading.

AGE EIGHT TO NINE

This type is suitable in size for books to be read by children from eight to nine years old. The size of the letters is slightly larger than the smallest given in the typographical table. Printed from Fourteen Point Old Style with 2 point Leading.

AGE EIGHT TO NINE

This type is suitable in size for books to be read by children from eight to nine years old. The size of the letters is slightly larger than the smallest given in the typographical table. Printed from Twelve Point Modern, with 2 point Leading.

AGE EIGHT TO NINE

This type is suitable in size for books to be read by children from eight to nine years old. The size of the letters is slightly larger than the smallest given in the typographical table. Printed from Twelve Point Antique Old Style with 3 point Leading.

AGE EIGHT TO NINE

This type is suitable in size for books to be read by children from eight to nine years old. The size of the letters is slightly larger than the smallest given in the typographical table. Printed from Twelve Point Old Style Antique, No. 7 with 2 point Leading.

AGE NINE TO TWELVE

This type is suitable in size for books intended for readers over nine years old. The size of the letters is slightly larger than the smallest given in the typographical table. Printed from Eleven Point Modern, with 2 point Leading.

AGE NINE TO TWELVE

This type is suitable in size for books intended for readers over nine years old. The size of the letters is equal to the minimum given in the typographical table. Printed from 12 Point old Style, with 1 Point leading.

AGE NINE TO TWELVE

This type is suitable in size for books intended for readers over nine years old. The size of the letter is equal to the minimum given in the typographical table. Printed from 12 Point Old, with 1 Point leading.

OVER TWELVE

This type is suitable in size for books intended for practiced readers over twelve years old. The size of the letters is in conformity with the smallest dimensions given in the typographical table. Printed from Ten Point Modern, with 2 point Leading.

OVER TWELVE

This type is suitable in size for books intended for practiced readers over twelve years old. The size of the letters is in conformity with the dimensions given in the typographical table. Printed from 11 Point Old Style, with 1 Point leading.

OVER TWELVE

This type is suitable in size for books intended for practised readers over twelve years old. The size of the letters is in conformity with the smallest dimensions given in the typographical table. Printed from Ten Point Antique Old Style, with 2 point Leading.

OVER TWELVE

This type is suitable in size for books intended for practised readers over twelve years old. The size of the letters is in agreement with the requirements specified in the typographical table Printed from Ten Point Old Style Antique, No. 7, with 2 Point Leading.

APPENDIX C

Clean Milk

Milk may carry the germs of typhoid, septic sore throat, scarlet fever, etc. These germs may be transmitted by a diseased or unclean cow, or milk handler, or by insanitary handling of milk, or by a combination of the three.

I. The cow and milk handler must be free from communicable disease. This requires the services of a veterinarian for the cow (tuberculin test every six months), and the annual medical examination of the milk handler. Both must be free from disease.

II. Sanitary conditions.

A. Cow: clean, suitable food; pure water; clean, dry, well-ventilated stable; washing of coat and udder before each milking; frequent clipping of flanks and udder to prevent dirt from adhering to them

B. Milk handler: clean body and clean clothes (overalls worn), clean, dry hands (towels and soap at hand)

C. Milking shed: sanitary at all times, walls and roof whitewashed

D. Manure pile screened from flies

E. No flies or dirt

F. Water, for cows and use in the dairy, must be free of harmful germs, odorless, and clear

G. Milk house, where milk is placed immediately after milking, must be clean, fly proof, and cool, have running water, and live steam

III. Utensils needed

A. *Milking pail:* tall, narrow and with small opening at top. Large mouth pails allow dirt and dust to enter, both contaminate the milk. Pails should be covered at once when set down.

B. *Strainer:* wire strainers are objectionable, they will not remove fine dirt and are hard to keep clean. A strainer is useful only for taking out dirt that should not have entered the milk. The simplest method of straining is to fasten a square of cotton flannel to the top of the milk can with a spring clothes pin or spring hoop of wire, or, if preferred, on a removable, funnel shaped strainer frame.

C. *Dairy brush:* get a real dairy brush so that every corner can be reached and no greasy deposit collect.

THROW AWAY THAT OLD WASH CLOTH

D. *Thermometer:* keep a thermometer on hand and watch the temperature of water and milk. 60 degrees is good, 50 degrees is better

IV. Care of utensils

A. Rinse all containers in cold water as soon as milking is done. Dried milk is hard to remove

B. Scald in boiling, soapy water (be sure that the water is boiling). Turn the cans and other utensils upside down on an open rack to drain, air and dry. The rack should be three feet from the ground to prevent disturbance from farm animals, and to keep rain from splashing in. Sterilization of all containers and bottles in a steam boiler is safer than washing in boiling water

C. Bottles: sterilized in live steam before filling, rinsed in cold water as soon as emptied and further cleaned with boiling water

D. Use a fresh cotton flannel strainer after every milking; if this is impossible, wash the cloth, boil for five minutes, and dry in the sun. Straining should always be done in a clean place, free from stable and other objectionable odors, and screened from cats, rats and flies

V. Care of milk

A. Pails should be covered at once if set down

B. Milk should be pasteurized, unless from tuberculin tested cows

1. Method of pasteurizing in the home:

Place a closed container of milk in a wooden rack. Set the rack in a pail containing sufficient water, at a temperature of 140 to 155 degrees Fahrenheit; to reach just below the top of the milk. Keep the water at the above temperature thirty minutes. During this time, stir the milk slightly two or three times. At the expiration of thirty minutes, pour off the hot water and run cold water into the pail. The milk will cool faster if slightly shaken. When cool remove from rack and set in a cold place

2. Pasteurizing plants: elaborate and expensive equipment used in a pasteurizing plant does not always mean that milk is free from dirt and germs. Absolute cleanliness from cow to consumer is the public's only safeguard

C. Rapid cooling: cool rapidly, use ice water if possible

A barrel of water will cool a can of milk. Use a continuous flow of water, or change it frequently

D. Transportation: sometimes milk is shipped a long distance in large containers before it is bottled for distribution

E. Bottling: sealed glass or paper containers

VI. Delivery in sealed glass or paper containers within twenty-four hours after milking

Evening's milk should be kept in spring or covered tank with water not above 55 degrees, use ice water when possible. Build the tank with the walls insulated like a refrigerator to hold the cold within. Solid concrete will prove entirely satisfactory only when there is an abundance of cold running water.

VII. *THE REQUIREMENTS OF MILK—IT MUST BE:—

1. Suitable in food value; i. e., by examination prove to have at least the minimum per cent of fat and solids

2. Look clean (no sand or sediment of any kind in bottles)

3. Smell sweet

4. Have a pleasant flavor

5. Show no disease germs on examination

All growing children need clean, safe milk in order to grow. Observation Project: have class visit a milk receiving station or a milk treatment plant when possible.

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*Courtesy of Pennsylvania Department of Health.

APPENDIX D

Trips and Excursions

The class work in health education should be made alive and attractive by means of trips and excursions to all the factors affecting individual, school and community health. The following is a suggestive list of places to be visited, noting in each case the state of cleanliness, number and breeding chances of flies, presence or absence of other insects and vermin as roaches, rats, etc., and whether or not food is properly protected from flies and the like. The working out and using sanitary survey blanks is advised. Sometimes these may be obtained from health departments.

1. Bakeries
2. Fruit stores
3. Candy stores
4. Soda fountains
5. Hog farms
6. City dump
7. Dairies
8. Model farm buildings
9. Dispensaries
10. Hospitals
11. Water works, including the water shed if possible
12. Sewage disposal plant
13. Groceries
14. Butcher shops
15. Industries
    a. Mines
    b. Ship yards
    c. Steel manufacturing
    d. Factories
    e. Quarries
16. Board of health offices and branch stations
17. Fire department
18. Heating and ventilating department of school plant

APPENDIX E

Accident Prevention

Accident prevention is one of the most productive health fields in which the teacher may work, because the prevention of accidents is largely merely a matter of habit formation and education as to causes of accidents and means of prevention.

The need of such education is enormous. During the World War approximately 70,000 American soldiers were killed in battle or died of wounds or disease, while during that time 120,000 persons were killed by accidents in the United States; 225,000 American soldiers were wounded in France, while 3,000,000 people were being injured by serious accidents in this country.

"Safety First" is the slogan of the day. The results have been most gratifying. One large steel company by educational propaganda resulting in more careful habits of employes, and by the use of better protective devices on machines, has reduced its yearly accidents in twelve years from 300 to 85 per 1,000, and another has cut the actual time lost from 7.2 days to 0.6 days per worker. Street accidents, however, are increasing, this increase being due to the carelessness both of pedestrians and of automobile, particularly truck drivers. In one city during a five year period, 1912-1918, the number of deaths per year from automobile accidents increased from 21 to 100.

In the lower grades, the main emphasis should be on building safe habits; avoidance of handling broken glass; climbing about partly built or partly destroyed buildings where there is danger from falls, from splinters, and from stepping on rusty nails; careless roller skating in the streets; reaching out of window or sticking head or arms from street car or railroad car windows; "hooking on" street cars, wagons, trucks and other automobiles; skating on thin ice, standing up in boats or canoes; neglecting cuts and scratches; handling fallen wires; carrying pens or pencils with point forward or exposed from the pocket; crossing the street in the middle of the block, playing tag in the street, etc. This safety first campaign may well be used as an adjunct to the effort for better and suitable games. Then there is the silly practical joke, practiced by children and many weak minded adults, such as tripping a person, pulling a chair away just as another is about to sit in it, etc.

The methods used may well be similar to those of the rest of the health education program: talks by the teacher and by pupils, especially by older pupils to the younger children and by shop foremen and members of the police and fire departments to all pupils; visits to shops and industries to note precautions taken; organization of traffic squads to help and guard the pupils of the lower grades; the use of "Safety First" scrap books by each pupil or class, in which are pasted newspaper and periodical clippings, pictures, both those clipped from papers and magazines and those drawn by the children themselves; the use of posters, exhibits and the like;

debates and discussions of the causes and prevention of accidents, and of accidents happening locally, either on school premises, streets, or in industries.

Accident prevention should be coordinated with the courses in art, civics, manual training, domestic science, agriculture, arithmetic by using examples on the cost of accidents, English through debates, etc., and with the rest of the health education program, particularly games and athletics.

APPENDIX F

Care of the Feet and Shoe Fitting

Wearing of improperly made and improperly fitting shoes is so prevalent that bad shoeing may be said to be the habit of the American people. Investigations at various army camps on nearly 60,000 men showed 71% to be wearing shoes that were too short, 10% wearing shoes that were too long and only 19% wearing shoes of correct size.

The proper shoe should have a fairly broad toe, a practically straight inner edge and a broad, fairly low heel. It should be pliable, the sole should be of fair weight, but not so heavy as to be stiff.

The wearing of metal arches, except on the advice of a physician expertly trained in orthopedic surgery, is, in the vast majority of cases, to make weakened feet worse. In most cases such weakness may be helped by strapping, but this latter should be done only on the advice of an expert orthopedic surgeon.

The following are the recommendations of a leading orthopedic surgeon regarding the method of inspection and preventive measures for weak feet.

"INSPECTION OF THE FEET OF SCHOOL CHILDREN"

"*Method of Inspection.* Inspection may be made quickly and satisfactorily in the following manner: the children form in line and one at a time—.

I. Walk briskly, with shoes on, toward examiner and—

II. Stand before him; they then remove shoes and stockings, which are carried in the hand, and returning to end of line, again—

III. Walk briskly with bare feet, toward examiner and—

IV. Stand before him; for determination of foot flexibility, child stands on one foot with opposite hip and knee flexed to right angle and makes following movements with foot—flexion, extension, inversion, eversion, rotation; for estimation of range of dorsal flexion, child lifts forefeet from floor while standing on heels; for examination of sole, child turns back to examiner and flexes knee to right angle; shoes are then examined for signs of unequal wear, and fit of stockings is inspected if rendered necessary by condition of toes; cases with definite defects are placed to one side to be examined later for—

V. Points of tenderness.

"*Points to be Noted.* The following deviations from normal should be looked for:

1. An excessive degree of toeing out; the feet should be parallel in walking, while a divergence of more than 30 degrees in standing is to be regarded as an element of possible harm
2. Undue prominence of inner malleous, indicating displacement of weight to inner side of foot
3. Loss of normal concavity on inner border of foot, due to pronation of foot or flattening of arch
4. Loss of elasticity of gait, a result of deficient thrust from the forefoot or decreased flexibility of foot itself
5. Improperly fitting shoes; especial attention should be paid to shortness, tightness and improper shape
6. Wearing away of inner margin in heel and sole, indicating harmful displacement of weight to inner side of foot
7. Spreading of forefoot, with consequent flattening of anterior arch
8. Excessive pressure on metatarsal heads, as shown by callosities on sole over these points
9. Loss of flexibility of foot, indicating abnormality of joints of foot or peroneal spasm
10. Loss of normal range of dorsal flexion, due to contraction of calf muscle
11. Abnormalities of toes,—cramped toes, hallux valgus, hammer toe, claw toes, over lapping toes, etc.
12. Point of tenderness,—particularly over anterior, tubercle of calcis, over tuberosity of scaphoid, over tendons back of malleoli, over lateral ligaments,—indicating harmful, constant strain

"*Stage Of Examination In Which Noted.* The above deviations are looked for in the various stages of examination as follows.

I. Note 1, 2, 3 and 4

II. Note 1, 2, 3, and 5

III. Note 1, 2, 3, 4, and 7

IV. Note 6, 7, 8, 9, 10 and 11

V. Note 12

"*Significance of Signs.* (a) An excessive degree of toeing out, undue prominence of inner malleolus, loss of normal concavity on inner border of foot or loss of elasticity of gait, occurring alone or in combination but without complaint or points of tenderness, are to be regarded as postural defects which impair foot strength and which, if uncorrected, may give rise to foot strain; their harmfulness is in proportion to their degree and the number of deviations present. (Postural defects are to be corrected by muscle training, aided possibly by the use of the Thomas heel).

(b) When the above signs are combined with points of tenderness or (and) when there is loss of foot flexibility, no matter what the apparent condition of the arch, definite foot strain is present and vigorous treatment is indicated.

(c) Weakness of the anterior arch, (6 and 7), may not only give rise to a disabling amount of pain but is also harmful, even when no particular discomfort is complained of, because of its interference with the proper thrust from the forefoot in walking.

(d) "Limitation of dorsal flexion to 90 degrees should be considered a factor of potential weakness." If present to a more marked degree, it becomes disabling and tends to produce pronation of the foot.

(e) Abnormalities of the toes in children are always of importance as they give rise to blisters, callosities and corns and so interfere with the proper use of the forefoot in walking.

"*Prophylactic Measures For Weak Feet*"

"Potential foot weakness and mild foot strain due to postural defects are readily corrected by the systematic use of a normal method of walking and the practice of a few simple exercises, combined with the wearing of proper footwear (stockings as well as shoes); even severe cases of foot strain may be so corrected, provided the necessary cooperation can be secured.

"In case of displacement of the weight to the inner side of the foot (as shown by 2, 3 and 6), the heel of the shoe may be wedged 1/8 to 3/16 inch on the inner edge; in more severe cases the heel may in addition be advanced a half inch or more on the inner edge.

Method of Walking and Exercising. Practice in the normal method of walking and training of the muscles chiefly concerned in maintaining correct foot posture should be made a part of the regular school drill. For the regular drill it seems feasible to include two exercises only, both of which are performed with the shoes on, as these will be sufficient for prophylactic purposes.

"*Walking.* The heel-and-toe gait should be used, with the feet parallel. The heel strikes the ground first and then, as the weight is thrown forward on to the ball, the body is lifted strongly by the thrust from the forefoot, the ankle must not be allowed to roll in but the weight thrown more to the outer side of the foot (as if rolling over the fourth toe), so as to utilize the force of all the toes. Especial attention should be paid to the force of the thrust; if this is sufficient and if the foot be used in the manner described, the arch must of necessity rise."

FOOT AND LEG CORRECTIVE EXERCISES

Standing, walking, jumping and running with the feet parallel should be the regular practice.

All special exercises should be done while in the bare feet if possible.

1. Standing in the above position and using the heels as pivots raise the toes of both feet simultaneously from the floor, placing them on the floor again at an angle of 45° : then with a considerable portion of the weight resting on them draw the toes together, dragging them on the floor to get all the resistance possible.

2. Standing with the toes of both feet close together, raise the weight on the toes by lifting the heels, then lower the heels slowly to the starting position.

3. Standing with the toes of both feet close together raise the weight on the toes by lifting the heels, while raising the heels push them forcibly apart so weight is borne on the outer edges of the toes.

Standing on the edge of a plank, platform or table with the heels and toes together, toes projecting beyond the edge of the plank, platform or table, curl the toes downward over the edge as far and as forcibly as possible.

5. Walk on the toes with the weight on the outer side.

6. Sitting with the feet squarely on the floor or straight in front and parallel, try to place the soles of the feet together.

7. Bicycle and horse back riding with the ball of the foot resting on pedal or stirrup is excellent.

The modern, narrow, pointed-toe shoe, made worse, as it usually is in women's shoes, by a high, pointed heel, causes turning out of the feet and throws on the inner edge of the foot a strain which soon results in a breakdown of the arch of the foot, a condition spoken of as flat foot. Parents often are responsible for this condition, because they have trained their children to walk toeing out. The proper position of the foot in walking is with the toes pointing straight ahead or even slightly inward. Races which have never worn shoes practically always walk in this way. The good runner or jumper walks and runs with his foot in this position.

In selecting shoes for ourselves or for children, we should have the moral courage to make our own selections, rather than depending upon the ignorance and commercial desires of a shoe clerk, who knows nothing about feet and apparently little about shoes.

In fitting shoes. examine them thoroughly before trying on, to test their pliability and to note the shape and height of heel. To test straightness of inner edge lay on a hard surface, inner edge down. If at a point one inch from the tip of the toe the inner edge is more than one-half inch from the surface on which the shoe rests the shoe is not fit for human wear. Always remember that the shoe is designed not to sit in but to stand and walk in. Always, therefore, test the shoe by standing in it with all weight on one foot. Try on both shoes, as in most persons one foot is larger than the other, sometimes to the extent of two sizes. While standing with the weight resting wholly on one foot, note whether or not there is any discomfort, if there is pressure upon the end of the toes, reject the shoe for a larger size. If the big joint, where the great toe joins the instep, is prominent the shoe is too narrow, unless the foot has already been deformed and bunions created by wearing narrow-toe shoes which lacked the straight inner edge. Still with all the weight resting on one foot, have a friend grasp the foot with the thumb and fingers across the broadest part just in front of the instep and slowly pinch thumb and fingers together testing the looseness of the leather. If the leather wrinkles between the thumb and fingers the shoe is too wide, if there is a feeling of tension in the leather the shoe is too narrow. Parents always should test children's shoes in this way.

Having more than one pair of shoes for daily wear is an advantage, a different pair being worn each day while the pair not in use is kept on a form. (This is not only restful to the feet, but the shoes, because they have an opportunity to dry out from the perspiration of the feet, are much more durable). When shoes are moist or wet because of stormy weather they should be dried out very gradually, preferably while on a form. Properly fitted shoes wear much longer than do poorly fitted ones, it being estimated that the wearing qualities of a pair of shoes is diminished from 25% to 56% when improperly fitted.

For foot comfort, as well as for economical wearing, be sure that the stocking also is long enough and smoothly fitting. Following is the table of corresponding size of shoes and stockings recommended by army officers who have made special study of the care of the feet.

In cold or wet weather, or when on camping or hiking trips, light wool is preferable to any other material for stockings. For additional warmth an extra pair of light wool stockings worn over the inner pair is ordinarily more satisfactory than wearing a heavy single pair of heavy wool. For hiking do not wear a darned sock next the skin as the irregularities caused by the darning are almost sure to create friction and blisters. If two pairs are worn, a darned pair may usually be used for the outer pair without injury. At night stockings should be spread out for drying and airing. Cleanliness is essential.

Shoe Size	Corresponding Sock Size	Shoe Size	Corresponding Sock Size
5 5½	10	9 9½ 10	11½
6 6½	10½		
7 7½ 8 8½	11	10½ 11 11½	12

There is no item of wearing apparel where improper fitting, especially tightness, is so harmful to mental attitude and effort as improperly fitted shoes. They color one's whole view of the "petty round of irritating cares and concerns" of daily life. Under those conditions the best physical effort is impossible. Concentration and, therefore, mental efficiency is markedly diminished, the wearer is nervous, irritable and generally a pest.

APPENDIX G

Posture:—Corrective Exercise & Postural Games*

Nothing can be done for posture until the child knows how it feels to stand correctly, that is, until his muscular sense is educated. He must therefore, first of all, be put in the correct position. Development in posture lies along two distinct lines:

1. Training the muscular sense whereby the child knows whether or not he is in the correct position and is able voluntarily to assume it.

2. Strengthening by exercise those muscles in which weakness allows lapsing into poor posture.

For the purpose of bringing about corrections in posture, particularly strengthening weak muscles, certain exercises may be used, for their local value. In order to understand these local effects, it is necessary to know that as a muscle is made to work regularly its condition of elasticity, ordinarily spoken of as tonicity, is improved and thereby exerts a more steady pull. In addition to this, a muscle which is steadily exercised becomes actually shorter; this puts its opponents upon a stretch and helps to pull the skeleton back into normal position. While these exercises should be repeated until fatigue begins, they should never be carried beyond that point. Exhaustion of muscle by too long repetition of exercises makes worse the already bad condition.

I. Individual corrections for poor posture

A. Drooping head position

1. Holding the correct standing position, place the hands on the hips, relax the muscles of the neck and drop the head backward without effort; now raise the head upward and draw the chin in strongly.

2. Holding the chin down, force the head back, strongly pressing the back of the neck against the collar. The strength of the exercise is increased if during its continuance the hands are held on the back of the neck.

B. Round shoulders
Here are needed special exercises for the neck and chest and more particularly arm movements that bring into play the muscles of the upper back.

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*See Grades I, II, III, IV, VIII, IX, X, XI, XII.

1. Holding the correct standing position, swing the arms forward and bend elbows so as to bring the finger tips on top of the shoulders, with elbows pointing forward. Keeping the hands in this position, lift the elbows and describe with them a semicircle at the sides, lifting them upward, backward and downward. At the end of the position the upper arms are close at the sides, the shoulder blades are flat on the back, and the arms are in the correct position of "upward—Bend." The movement is a slow one. Repeat 4 to 10 times in succession.

2. Holding the correct standing position, neck exercises as described under A1 and 2.

3. Holding the correct standing position, arms half forward—Bend! Raise the arms strongly to the position of half upward—Bend. By previously bending the body forward the pull and force of these exercises are increased.

4. Place the pupil face down on the desk, catching the heels under the seat behind. Hands on neck—Place! Body backward—Bend! That is, raise the upper body from the desk without the aid of the hands, the weight resting on the lower abdomen and hips, leverage being secured by the grip of the heels under the seat behind. Body—Lower! Return to lying on desk position.

5. Sports like rowing and volley ball are among the best to correct this weakness.

C. Weak abdominal walls

This is shown by prominent abdomen and marked curve forward of the back in its lower part. Corrective exercises are those which exert a strong pull upon the abdominal muscles.

1. Holding the correct standing position. Hands on hips—Place! Body right (or left)—Bend! Be sure that the feet are not moved, that the knees are kept straight, that the body is bent directly to the side without twist. Body—Raise!

2. Holding the correct standing position. Hands on hips—Place! Body backward—Bend! This exercise may be taken while sitting on the desk with toes locked under the seat behind.

3. Hand on hips—Place! Body right (or left)—Twist! this is an excellent exercise for strengthening the sides of the abdomen.

4. Lie flat on the back raising the legs either alternately or both together, with the knees straight; an excellent exercise for the lower abdominal muscles.

D. Flat Foot

This condition is often accompanied by pain, especially in the calf of the leg. Its most marked characteristic is an excessive turning out of the feet in standing, walking or running, often with an awkward, stumping gait. Among the best exercises are the following: standing, walking, jumping and running with the feet parallel with each other. All special exercises should be done while in the bare feet if possible.

1. Standing in the above position and using the heels as pivots, raise the toes of both feet simultaneously from the floor, placing them on the floor again at an angle of 45 degrees; then with a considerable portion of the weight resting on them draw the toes together, dragging them on the floor to get all the resistance possible.

2. Standing with the toes of both feet close together, raise the weight on the toes by lifting the heels, then lower the heels slowly to the starting position.

3. Standing with the toes of both feet close together, raise the weight on the toes by lifting the heels, while raising the heels push them forcibly apart so weight is borne on the outer edge of the toes.

4. Standing on the edge of a plank, platform or table with the heels and toes together, toes projecting beyond the edge of the plank, platform or table, curl the toes downward over the edge as far and as forcibly as possible.

5. Walk on the toes with the weight on the outer side of them.

6. Sitting with the feet squarely on the floor or straight in front and parallel, try to place the soles of the feet together.

7. Bicycle and horse back riding with the ball of the foot resting on pedal or stirrup is excellent.

The modern, narrow, pointed-toe shoe, made worse as it usually is in women's shoes, by a high, pointed heel, causes turning out of the feet and throws on the inner edge of the foot a strain which soon results in a breakdown of the arch of the foot, a condition spoken of as flat foot. Parents often are responsible for this condition, because they have trained their children to walk toeing out. The proper position of the foot in walking is with the toes pointing straight ahead, or even slightly inward. Racers which have never worn shoes, practically always walk in this way. The good runner or jumper walks or runs with his feet in this position.

E. Weak legs

These usually go with a generally faulty posture, being due to flabby muscles and a tendency toward a slovenly habit of standing or walking. Exercises described under "Flat foot" and also knee bending exercises, and running either to gain ground or in place are excellent for correcting this defect.

F. Underdeveloped arms

All the arm exercises and also exercises where the body hangs and its weight is raised and lowered by the arms will improve this condition.

G. Flat chest

This common deformity is often due to physical defects which interfere with nasal and throat passages, such as adenoids, and enlarged or diseased tonsils. Where causes of this kind exist they must be removed before special exercises can be effective. Deep breathing before the window several times daily has an advantage in that it makes the chest wall less rigid. Body sidewise bending with one hand on the hip and other raised high above the head, always bending toward the hand on the hip, is an excellent exercise for the chest wall. Running, swimming, rowing, volley ball, tennis, etc., are excellent exercises for increasing the elasticity and dimensions of the chest.

In exercising to correct deformities it must be remembered that the pupil is undergoing a developmental process, and that physical development especially the correction of a faulty position, is slow. Results should not be expected in a week or month. Long continued, regular, vigorous practice is essential. Exercises always should be accompanied with the building up of the muscular sense and the formation of the habit of proper sitting, standing and walking.

There are many games, which we may here call Postural Games, in which, through play, we may emphasize the correct posture and bearing of the body.*

Every normal person, can, without looking at his own body, say whether he is sitting in an erect position or in a slouching one; whether, his right foot is forward or his left, etc. This knowledge is conveyed by the muscular sense. Similarly, it is the muscular sense that enables a baseball pitcher to determine the force and coordination of muscular action necessary to throw a ball a certain distance in a certain direction to the catcher.

Be sure to get the playing values out of the games. By this we mean, see that every child gets as much opportunity as possible for participation in the actual physical exercises of the game and in all the phases of play that will make him an alert resourceful and successful player. The result of this and the test of it will be the amount of interest and sport in the games. Do not make the games too serious. Get laughter and frolic out of them.

Postural Games for Kindergarten and Grades 1 to 3

Bean Bag Balance

The children march around the room or yard, each balancing a bean bag on his head. In order to prevent the bean bag from falling off, the body must be carried erect and the head held high. To increase the difficulty, the game may be played using a book in place of the bean bag. The game may also be played marching on the tiptoes.

Did You Ever See a Lassie?

All the players but one form a circle, joining hands. They circle around, singing the first two lines of the verse. While they are doing this, the odd player stands in the center and illustrates some movement which he chooses for the others to imitate. (The teacher should suggest exercises that have a distinct corrective value, such as placing the hands on the top of the head and standing in good position; placing the hands behind the neck, keeping the elbows well back and head high, chin in; raising the arms sideward and lowering them; looking up at the different corners of the room, or if out of doors, looking up at the tree tops and clouds, etc.) During the last two lines of the verse the players stand in place, drop hands, and imitate the movements of the center player, while he continues in unison with them.

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*Other games may be found in that part of the course of study devoted to Physical Education.

Did you ever see a lassie, a lassie, a lassie,
Did you ever see a lassie do this way and that?
Do this way and that way, and this way and that way;
Did you ever see a lassie do this way and that?

When a boy is in the center, the word "lassie" should be changed to "laddie".

Do This, Do That

All the players stand facing the teacher, or one of their number, who is the leader. The one who is leader assumes a gymnastic position (use exercise similar to those given in "Did You Ever See a Lassie?") or imitate any action, at the same time saying "Do This" and the others immediately imitate. Should the leader at any time say "Do That" instead of "Do This," any player who imitates the action performed must be seated, or pay a forfeit, whichever form of penalty has been decided on at the beginning of the game.

Hand Over Head Bean Bag

This is a relay passing race, the different rows of pupils competing with each other in passing the bean bags backward over the head.

The players should all be seated, there being the same number in each row of seats. On each front desk a bean bag should be laid. At a signal the first player in each row lifts the bean bag over his head and drops it (it should not be thrown) toward the desk behind him, immediately clasping his hands on his own desk. The next player catches or picks up the bean bag from his desk and passes it backward in the same manner. It is thus passed quickly to the rear of the line. When the last pupil receives it, he runs forward at once to the front line. As soon as he reaches the front desk, the entire row of players move backward one seat, and the player who ran forward takes the front seat, immediately passing the bag backward over his head to the player next behind him.

The play thus continues until the original occupant of the front seat has again returned to it. Immediately after he is seated, he should hold the bean bag up with outstretched arm, as a signal that this row has finished.

If the game is played the first time passing the bean bag back using the right arm, the next time the left arm should be used.

This game may also be played out of doors, having the players line up, the same number in each line, one behind the other.

Gathering Apples

1. Walk briskly to the orchard. (Carry bag over the shoulder)
2. Look up to see apples
3. Stand on toes and reach for apples
4. Climb ladder into the tree
5. Pick apples and toss them to the ground
6. Reach up and shake the limbs
7. Pick apples up and place them in the bag
8. Throw bag over the shoulder and walk briskly home

Swinging in the Swing (arms and legs)

Raise the arms as if grasping ropes, step forward on left foot, then back on right foot, swaying backward and forward.

What mother does for us—prepares good food to make us grow strong and tall.

1. Show how tall we are: stand straight and tall—stretching head, neck, chest and trunk

2. Show how high we can reach, (arms) stretch right arm above head, stand on tiptoes and stretch arms

3. Show reach of arms. Raise arms sideways and stretch

4. Show how we can balance. Raise arms sideways and right (left) leg backward

Birds (Tag Game)

Mark out a nest in one corner and a cage in another, choose two bird catchers and a mother bird and name the other players in groups of three or four after kinds of birds. Have the mother bird stand in front of nest and the two catchers in front of the players between cage and nest. When teacher calls "Robin" or "Quails" the players so named must rise, fly to rear of room and then fly (raising arms sideward and moving up and down) to nest trying to be touched by mother bird before the catchers can tag them. Bird catchers may not leave their place in front until the birds reach the rear of the room. Birds tagged are put in the cage. Object—see which contains more birds, the cage or the nest.

"If I Were—"

A bird, I'd fly to my nest. Raise arms shoulder level; move them up and down to rhythm of feet, running away from seat and back again.

Fluttering Leaves on the Trees

Extend arms sideward, upward; flutter arms and fingers like leaves; exhale with a blowing sound—"Wh—" (breathing).

Reaching Games

1. With chalk held in the hand (first right, then left) contest to see which child, keeping both feet on the floor, heels raised, can make the highest mark on the blackboard.

2. With chalk, pencil or stick held in the hand, each child in turn toeing a mark on the floor, walk, or playground, leaning forward and resting the weight on the hand which is not holding the marking material, contest to see which child can make his mark farthest from his toes. The erect position must be regained in one movement by pushing up directly with the hand on which the weight is leaning. This contest should be tried with the marker first in left hand, then in right.

Postural Games for Grades 4 to 6

(Those suggested for grades 1-3 and the following)

Arch Ball

The players line up in two or more single files, which compete with each other, and must therefore contain an equal number of players. The captain or leader of each file toes a line drawn across the ground and holds a basket ball (a volley ball, bean bag or other object to be used). At a given signal he passes the ball backward over his head as rapidly as possible, and so on until it reaches the last player in line. He at once runs forward carrying the ball to the front of the line, which moves backward one place to make room for him. He toes the line and passes the ball backward over his head. The play continues until the captain reaches the end of the line, and runs forward to his original place at the head of the line. As he takes his place there, he holds the ball aloft as a signal that he has finished. The file wins whose captain is the first to return to his place.

The game may be made very enlivening by passing several articles in rapid succession, each of a different and constrasting character, such as a basket ball, a tennis ball, Indian club, bean bag. dumb bell, etc. In this form of the game the last player in the line must accumulate all of the articles before running forward with them, or the score may be made on the arrival of the last article at the end of the line.

This game may also be played in the school room, having the players sit in the seats, or stand between the desk and the seat. The last player in the line should run forward on the right hand side of the desk, and when he reaches the first seat in the row all the other players in the row move backward one seat, and the game goes on. Care should be taken that there are no feet in the aisle over which the runners might trip.

Balancing

Any standard balance beam may be used, or a two by four inch plank, set on the two inch side. The length should be twelve feet.

There is no time limit in this event, but there should be an endeavor to meet the requirements promptly, without haste, and with perfect poise.

The body should be held erect, head high. Stare at one end of the beam and walk slowly to the other end. When this can be done easily, add to the difficulty by balancing a bean bag on the head.

Arch Goal Ball

The players are divided into two groups, and line up in single file in two or more lines facing the basket ball goal or any substitute. Each line has a basket ball. At a signal each leader passes the ball backward over his head, the next player catches it, passes it on in the same way, and so on to the end of the line. When the last player receives the ball, he runs forward and tries to throw it into the basket, standing on a line marked from 5 to 10 feet from the goal. He is allowed but one throw, when he quickly takes his place at the front of his line (which now moves backward one place to make room for him) and at once passes the ball backward overhead. The last player, in turn, runs forward, throws for goal, etc. This is repeated until each player in a line has thrown goal. Each goal made, scores 2 points for the team. The team wins which has the highest score when all the players have thrown.

This may also be played on time. Then each player throws until he succeeds in getting the ball into the basket. The team wins whose last man finishes first.

The overhead or chest throw should be used. The underhand throw should not be permitted.

POSTURAL GAMES FOR HIGH SCHOOL

Those used in the lower grades plus the following:

Basketball Overhead Throw for Distance

The start should be made by toeing the line, with the feet in a side-stride position. The ball should be held with the hands slightly in the rear of the ball, the fingers in a spread condition. Now bend the body forward, bending the knees slightly, meantime watching the ball. Straighten the body, straightening the knees, and bring the ball in rear of the head, arms slightly bent, body bent slightly backward. Repeat this movement several times, then, on the forward movement deliver the ball at an angle of 45 degrees. The ball should be thrown overhead with both hands. The delivery of the ball should always be accompanied by a "follow through" of the hands. The feet should not be moved from place (heels may be raised) until the ball touches the ground. A lane in front of the take-off should be marked with lines one foot apart—lines running parallel to the scratch line.

Fouls are made by hopping, jumping, touching the ground in front of the scratch line with the hands or feet, or by moving the feet in any direction, or lifting the feet before the ball touches the ground.

Coaching suggestions—Teachers should look for fouls and warn pupils of the same. Use class exercise to develop form.

Have pupils use an eye mark about 50 feet away from the scratch line.

Balancing

Same as for Grades 4 to 6. As an additional test the pupils may start from the center of the beam walk forward to the end, and without turning, walk backward to the center of the beam, then turn and walk forward to the other end, and without turning walk backward to the center.

APPENDIX II

Health Exhibits

Health Exhibits should be organized in connection with the Health Education of the schools. Material may be obtained from the U. S. Public Health Service, or the State Board of Health, as well as from some of the numerous organizations interested in special health fields. The following list is merely suggested, it may be added to as need or desires arise.

1. Flies
2. Dairy

3. Milk and its care
4. Playgrounds
5. Mosquitoes
6. Physical Education organization
7. Medical Inspection, meaning and organization
8. Nutrition
9. Water supply
10. Sewage disposal
11. House location in regard to sewage, water, etc.
12. Heating and ventilating, including the use of window boards
13. Window screening, wire—cheese cloth
14. Open air schools
15. Gymnasia
16. Garbage disposal
17. Markets and food protection
18. Sleeping porches

APPENDIX I

Weighing and Measuring*

It is entirely possible by careful inspection at home to determine the presence or absence of good health in children and thus to be able to preserve it, or proceed intelligently to restore it.

First, carefully weigh and measure the school child—compare the results with what he should weigh as printed on the charts in the pamphlet furnished by the United States Bureau of Education.

Height and weight are to be taken in house clothes, without shoes. Weigh on the same day each month. Use age nearest birthday.

If the figures show the child to be 10 per cent below the average weight for his age and height, it is more than likely even though he has voiced no complaint, that either the health, the diet, or the habits of living, one or all, are at fault. Certainly such a child is not in good health, and not fit for the strain and exposure incident to school life.

Neither can such a child do full justice to himself or his educational opportunities while this substandard prevails. Nor will he be fully able to withstand the contagions and debilitating diseases to which he may be exposed.

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*The School Child's Health, American Hygiene Association and American Red Cross.

It is more essential that you know what your child weighs and his progress in weight than to know his school grade and progress therein.

There is a known and definite average amount of progress in weight each month for every normal healthy child.

The table shows that for a boy this figure varies from 6 ounces for boys between 5 and 8 to 16 ounces a month for boys between 14 and 16.

Boys' Height and Weight Table

TABLE A

WEIGHT—HEIGHT—AGE TABLE FOR BOYS

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.	19 Yrs.
38	34	34													
39	35	35													
40	36	36													
41	38	38	38												
42	39	39	39	39											
43	41	41	41	41											
44	44	44	44	44											
45	46	46	46	46	46										
46	47	48	48	48	48										
47	49	50	50	50	50	50									
48		52	53	53	53	53									
49		55	55	55	55	55	55								
50		57	58	58	58	58	58	58							
51			61	61	61	61	61	61							
52			63	64	64	64	64	64	64						
53			66	67	67	67	67	68	68						
54				70	70	70	70	71	71	72					
55				72	72	73	73	74	74	74					
56				75	76	77	77	77	78	78	80				
57					79	80	81	81	82	83	83				
58					83	84	84	85	85	86	87				
59						87	88	89	89	90	90	90			
60						91	92	92	93	94	95	96			
61							95	96	97	99	100	103	106		
62							100	101	102	103	104	107	111	116	
63							105	106	107	108	110	113	118	123	127
64								109	111	113	115	117	121	126	130
65								114	117	118	120	122	127	131	134
66									119	122	125	128	132	136	139
67									124	128	130	134	136	139	142
68										134	134	137	141	143	147
69										137	139	143	146	149	152
70										143	144	145	148	151	155
71										148	150	151	152	154	159
72											153	155	156	158	163
73											157	160	162	164	167
74											160	164	168	170	171

Prepared by Bird T. Baldwin, Ph.D., and Thomas D. Wood, M.D.

For a girl, the increase varies from 6 ounces a month for girls from 5 to 8 to 12 ounces for girls from 11 to 14.

After the minimum increase here given, the figures are lower again for boys from 16 to 18 and girls from 14 to 18.

If your child does not maintain such average physical progress he is not in full health and is being held back by removable and unnecessary causes.

Girls' Height and Weight Table

TABLE B

WEIGHT—HEIGHT—AGE TABLE FOR GIRLS

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.
38	33	33												
39	34	34												
40	36	36	36											
41	37	37	37											
42	39	39	39											
43	41	41	41	41										
44	42	42	42	42										
45	45	45	45	45	45									
46	47	47	47	48	48									
47	49	50	50	50	50	50								
48		52	52	52	52	53	53							
49		54	54	55	55	56	56							
50		56	56	57	58	59	61	62						
51			59	60	61	61	63	65						
52			63	64	64	64	65	67						
53			66	67	67	68	68	69	71					
54				69	70	70	71	71	73					
55				72	74	74	74	75	77	78				
56					76	78	78	79	81	83				
57					80	82	82	82	84	88	92			
29						87	90	90	92	96	100	103	104	
58						84	80	88	88	93	96	101		
60						91	95	95	97	101	105	108	109	111
61							99	100	101	105	108	112	113	116
62							104	105	106	109	113	115	117	118
63								110	110	112	116	117	119	120
64								114	115	117	119	120	122	123
65								118	120	121	122	123	125	126
66									124	124	125	128	129	130
67									128	130	131	133	133	135
68									131	133	135	136	138	138
69										135	137	138	140	142
70										136	138	140	142	144
71										138	140	142	144	145

Prepared by Bird T. Baldwin, Ph.D., and Thomas D. Wood, M.D.

About What a Boy Should Gain Each Month

TABLE C

5 to 8	6 oz.
8 to 12	8 oz.
12 to 14	12 oz.
14 to 16	16 oz.
16 to 18	8 oz.

About What a Girl Should Gain Each Month

TABLE D

5 to 8	6 oz.
8 to 11	8 oz.
11 to 14	12 oz.
14 to 16	8 oz.
16 to 18	4 oz

Try to do as much better than the average as you can.

Find out whether such failing exists, learn the cause, and remove it at once.

Doing this will not only increase the child's progress in school, and its protection from serious disease, but may actually be the means of saving its life.

Pulmonary tuberculosis in children, if discovered early, is absolutely curable with proper care in at least 99 per cent of the cases.

Underweight and insufficient gain in weight is one of the earliest signs of this disease and the tendency thereto.

Therefore, weigh and measure your child in getting him ready for school and repeat every month, if possible, certainly every six months thereafter, keeping record of the figures.

A boy between 9 and 13 years of age requires just as much food as a man, and between the ages of 14, and 19 he will require more than a man does.

Malnutrition

Malnourished children are usually either under weight or under height, or both, for age and race, and are not able to gain in weight as they should; they may be overweight.

They may show several, or nearly all, of the following characteristics according to the degree of malnutrition.

A pale, delicate, waxlike, or sallow skin, muddy or pasty in appearance
Dry, rough, and lustreless hair
Eyes not clear and dry
Hollow or dark places under eyes
The red membranes of the lips, mouth, and eyelids pale and pinkish instead of being a full, rich red color
Tendency to hold mouth open
Inability to breathe easily through the nose
Hearing not distinct
Loose and flabby flesh, muscles relaxed
Position slouchy, shoulder blades protruding, abdomen protruding beyond chest, chest flat and narrow
Expression listless
No appearance of the vitality, elasticity, and joy characteristic to childhood
All children do not show the same reaction to malnutrition. Some tire easily, and are very sensitive, while others are restless, over-ambitious and find it difficult to concentrate.

Some children lack appetite, but have a craving for some one kind of food.

Sleep is often unrestful.

APPENDIX J

Comparative Death Rates

For purposes of information and discussion the following comparative tables of death rates are presented.

Table A shows the death rates from several of the most common diseases, the death rate of Pennsylvania being compared with that of the United States, with that of the best rate of any state for that particular disease, and with the neighboring large industrial and mining states of Ohio and New York.

Ordinarily, death rates are figured on the basis of the number of deaths in any given year per hundred thousand of the population. Infant deaths, however, are figured somewhat differently, they being the number of deaths per thousand of living births for that given year. For instance, if in any community there are two thousand living births and one hundred fifty deaths of children under one year of age, the infant mortality rate of that community would be 75.0 for that year.

In this Table A certain things of an interesting nature are developed. For instance, Pennsylvania shows a better death rate from typhoid fever than does the United States as a whole, also a considerably better rate than does Ohio, but a much worse rate than does the state of New York. The state of New York, however, for a thickly populated state, has a remarkably low rate from this disease. The death rate from diarrhea and enteritis in children under two years of age is very high in Pennsylvania as compared with the nation and with these two neighboring states; this is also true for pneumonia.

The study of these charts will enable the teacher, particularly in the high school, to lead many interesting discussions, not only concerning the rates themselves, but as to the cause of the rate being high or low in this state as compared with the nation or with its neighbors, and discussions of the means by which communities may reduce their death rate.

"Regardless of the expenditure of effort and money, there are certain factors beyond our control which have a decided influence in determining mortality rates. These are, age distribution of population, sex, nativity, color, occupation, density and the natural meteorological conditions which show wide variations in a country so extensive as the United States."

"For this reason caution should be exercised in attempting to compare things of unequal value. The fact that the same unit of measurement, that is, deaths per 1,000 of population, is employed in every instance does not relieve us from the possibility of error when the material measured presents such wide variations."

"The mortality rates from certain principal causes in the Registration Area of the United States show decided declines for the last few years, because these rates have been diluted from year to year by the admission to the Registration Area of particularly favored states and very far removed from the conditions existing in the older and more densely populated commonwealths which originally composed this Area." This fact should be taken into consideration too when we compare death rates in Pennsylvania with those in the far western states.

Then, too, when considering mortality rates from cancer we should remember that the population of South Carolina is largely colored and that colored people seem to have some immunity from this disease. Nevertheless, considering white people only in South Carolina the death rate is 42.3 as compared with Pennsylvania 76.1.

> "Public health is purchasable. Within natural limitations a community can determine its own death rate."

Comparative Death Rates**

TABLE A

Death rates in Pennsylvania compared with those of the nation and of certain other states, 1918

	U. S. rate	Penna. rate	Best rate in any state	Ohio rate	New York rate
Infant deaths under one yr.,	87 (–14)	100 (–29)	Wash. & Oregon 63 (–6)	90 (–4)	84 (–13)
Typhoid fever,	12.5	10.6	Minnesota 3.7	14.4	5.5
Measles,	10.8	9.5	Montana 3.7	5.1	12.9
Scarlet fever,	3.0	2.0	Louisiana 0.3	3.3	3.0
Whooping cough,	16.8	17.3	Washington 4.3	12.7	11.8
Diphtheria & Croup,	13.8	20.3	Oregon 3.6	9.8	16.7
Tuberculosis all forms,	149.1	147.4	Utah 46.1	144.8	160.7
Cancer,	79.8	76.1	So. Carolina 34.4	91.0	93.2
Apoplexy, cerebral hemorrhage,	79.3	86.8	Tennessee 38.6	101.4	93.1
Organic diseases of the heart,	152.3	157.4	Washington 84.8	163.0	194.2
‡Pneumonia all forms,	149.8† 284.3	188.6† 407.0	Washington 54.9† 108.4	150.8† 250.3	173.4† 358.1
Diarrhea and enteritis (under 2 yrs. of age)	58.3	95.7	Washington 13.9	51.6	51.4
Acute Nephritis and Bright's disease,	96.9	103.4	Washington 48.2	89.2	115.1

Table B on the other hand shows comparative death rates in Pennsylvania for the year 1906 to 1918 inclusive. When we consider acute contagious diseases only, it is mostly a table indicating great progress. For instance, the death rate for typhoid has dropped from 36.4 to 10.6 in that time. With chronic diseases the situation is not so happy. Here again most interesting discussions should be worked out showing the causes of the improvement in acute infectious diseases and also the causes of lack of improvement in the chronic diseases, and the steps which the community should take, not only to continue the improvement as regards acute infectious diseases, but to bring about improvement in the chronic disease situation.

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*for 1919

( )diminution of rate as compared with previous year

‡Influenza include

†Rate in 1917

**Figures taken from the Bureau of Census, Washington, D. C.

TABLE B

Form 46

Comparative death rates from major causes in Pennsylvania, 1906-1918 inclusive.

	1918	1917	1916	1915	1914	1913	1912	1911	Annual 1906–10 Average
*Infant deaths under 1 year,	129.0	111.0	114.0	110.0†					
Typhoid fever,	10.6	10.4	13.6	12.3	13.0	18.1	16.4	21.9	36.4
Measles,	9.5	6.1	18.1	6.7	6.7	19.5	10.6	10.3	15.3
Scarlet fever,	2.0	2.6	2.6	3.6	10.4	11.3	6.9	9.6	12.8
Whooping cough,	17.3	10.3	12.2	6.8	11.4	11.1	10.2	12.7	16.5
Diphtheria and Croup,	20.3	23.3	19.4	19.5	23.3	25.9	25.6	27.0	29.1
Tuberculosis (all forms),	147.4	135.3	130.1	126.9	123.9	120.9	123.9	135.4	141.0
United States,	149.1	146.4	141.6	145.8	146.8	147.8	149.5	158.9	168.7
Cancer,	76.1	78.9	76.6	74.0	72.7	72.2	68.1	66.4	62.3
Organic diseases of the heart,	157.4	152.0	145.0	141.3	137.7	125.5	133.2	129.0	128.7
Pneumonia (all forms),	407.0	188.6	167.7	148.3	146.0	152.8	145.5	140.0	149.5
Diarrhea and Enteritis under two years,	95.7	94.8	101.7	90.7	95.4	106.3	93.7	104.1	127.4
Acute Nephritis and Bright's disease,	103.4	116.2	107.2	103.7	100.3	103.0	94.4	91.9	88.4

APPENDIX K

Physical Activities at Various Ages

Teachers should keep constantly in mind the fact that as children grow older their physical powers and characteristics change.

Remember that pupils 9 to 13 years of age are entering a period of rapid growth in height, often at the expense of girth and of the vital organs. The bones are lengthening; this increases the lever length at the same time that the muscles are lengthening without proportionate increase in power. It requires more effort for these pupils to move about: their coordinations are shifting. Hence

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*Reduced to 100.0 in 1919

‡Figures not available previous to 1915.

oftentimes, these pupils, particularly the boys, seem to be "all feet." The boy is terribly self-conscious. He needs especially training in grace. It is the time par excellence to push rhythmic exercises and folk dancing. Chest capacity is small, therefore endurance is lacking. In athletic contests, only short races, 30 to 60 yards, should be run. Games like basket ball, soccer, and hockey, requiring continuous running, should not be permitted until after the thirteenth year, unless modified by area lines so that no child is permitted to cover the whole field of play.

Age, sex and occupation also have a bearing on the desirable and permissible types of physical activity. Girls at certain ages are more able than boys, particularly in early adolescence. This does not mean, however, that they should be strained in athletic contests.

A child whose habit is sedentary and who is not of a particularly athletic temperament needs especially physical activities. When started in these activities, however, his introduction to them should be gradual, not only in the time used, but in the type of exercises offered so that there may be no danger of strain.

There is great danger of over-strain of the heart and of the abdominal muscles. Teachers, and particularly coaches, in high schools should keep constantly in mind the probability of their ruining a possibly great athlete by athletic excesses before the child reaches the age of eighteen. There are, too, great dangers to girls in too great physical activity, not only in games and athletics, but in social activities, particularly dancing, not so much because of the physical strain, but because of the excitement and late hours which usually accompany this activity. They should be carefully guarded about the time of menstruation.

The teacher should keep in mind the kind and severity of the different types of athletics that are suitable for different ages. No boy under 14 years of age, nor any girl at any age, should throw the weights or participate in a race of over 60 yards. No boy 15 years of age should compete in a race of over 100 yards. No boy under 16 should enter a race of over 400 yards; no boy under 17 of over 880 yards; no boy under 18 of over 1,000 yards; and no boy at any age of over one mile. No boy under 16 ought to throw a weight heavier than 8 pounds, or, if 18 years of age, one heavier than the 12 pound shot.

APPENDIX L

Health Habit Score Cards

There follow two suggested health habit score cards. The first is better fitted to pupils of the elementary schools.

HEALTH HABIT SCORE CARD

Secondary School

Name ....Age to nearest birthday ....Month of ....

Height ....Normal height for age and weight ....

Weight ....Normal weight for age and height ....

TABLE C

Form 46

Day	Hours of sleep	Minutes of outdoor exercise	Number of regular meals	Times teeth are cleaned
1				1
2				2
3				3
4				4
5				5
6				6
7				7
8				8
9				9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24
25				25
26				26
27				27
28				28
29				29
30				30

Baths—Number of sponge or tub baths
Teeth—Appearance—Excellent .... Good .... Fair .... Poor ....
Date of filling cavities .... Date of last visit to dentist ....
Position of visible cavities
Hair—Appearance .... Frequency of washing per year ....
Nails—Evidence of biting .. Times cleaned per wk. .. How cleaned ..
Sleeping quarters—Number of windows in room ....
Arrangement at night ....

TABLE D

Form 46

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Slept average number hours daily,																				
At least one window open & shades raised each night,																				
Two hours exercise in open air daily,																				
Washed face and hands before each meal,																				
Drank at least 4 glasses of water & 1 of milk daily,																				
Cleaned nails daily,																				
Cleaned ears daily,																				
Cleaned teeth daily,																				
Cleaned nose daily,																				
Bowels moved at least once daily,																				
Number of baths,																				

To be held in possession of the classroom teacher, distributed and filled by pupils each Monday morning, and returned to the teacher. Reports should be checked by frequent inspections by teacher, nurse and school doctor. If preferred, this may be converted to a daily record by having the pupils each day put a dot in the square against the chore. For instance, if he brushed his teeth every day, at the end of the week there would be seven dots on the square opposite that chore.

APPENDIX M

Suggestive Lessons and Methods

The following suggestive lesson plans do not imply that health should be taught through formal lessons only.

To make health education effective the teacher must be alert to every opportunity to link health teaching with the child's habits, interests, and curiosity. Washing of the hands before every meal, checking of conveying of pencils and other foreign articles to the mouth, cleaning of the teeth each day, daily exercise in the open air, taking a quart of milk daily, are more effective in establishing the habit than any formal lesson on these subjects could possibly be.

To create interest "Milk, the Best Food" may be preceded by a story which will impress the children with the value of milk. If possible the story should be based on incident familiar to the pupils.

A story developed from the following facts may serve to carry the story home.

James is susceptible to disease. He has been sick several times this year. He does not enjoy playing with other boys because he is always tired. He drinks coffee and tea. William is strong, has a good time, and seldom has even a cold. He drinks a quart of milk a day.

"Rosy Cheeks and Strong Heart", American Child Health Association, New York City, will serve both as a reading lesson and to interest children in milk.

Suggestive Lesson—Grade III

Milk, the Best Food

I. Aim—To show the importance of milk as a food and give the children a motive for drinking it.

II. Preparation

A. Specific knowledge required of the teacher

1. Value of milk as a food

   a. It supplies building and growth producing material, mineral and vitamines. These are the materials needed for growth of the bone, muscle, teeth and tissue.
   b. Every child needs at least one pint a day. One quart is preferable.
   c. Perfect food for babies and the best for growing children

III. References

Diet for the School Child, Gillett, Bureau of Ed., Washington, D. C.

Food Primer for the Home, Gillett, A. I. C. P. Bureau of Supplies, N. Y. City

Feeding the Family, Rose, Macmillan Co., New York.

IV. Illustrative material

A. Posters

1. "I am a Milk Fed Baby"—(a rosy cheeked 8 to 10 months old baby)
2. "James Drinks a Quart of Milk a Day" (Boy Scout holding a milk bottle at attention)

B. Chart—for recording amount of milk drunk daily

C. Scales

D. Health Fairy

E. Singing games

Subject Matter	Methods
Milk supplies building material for muscle, bones and blood.	Show picture "James drinks a quart of milk a day".
Happiness accompanies strength and health.	Why does James look so strong and happy?
A pint of milk is necessary for the growing child; a quart is preferable, either as a beverage or combined with other foods.	How much milk does James drink each day? Do you want to be strong like James?
No other food contains all the material needed for growth.	Then how much milk should you drink daily? In what ways can we take milk other than as a beverage? Would any other food take the place of milk?
Milk is a perfect food for babies, they live and grow on it for the first nine months of their lives.	Show picture "I am a milk fed baby". Why does baby look so well? What is the best food for the baby? Will any other food make baby grow so fast and strong?

When you take care of baby at home what will you give her to eat?

In industrial centers third grade children are frequently responsible for the baby while the mother is employed. They should know the necessity for feeding milk to the baby.

Scales

If good examples in the class of milk drinking and non or irregular drinking children, compare appearances.

Weigh those who do drink milk; those who do not. Compare results.

Encourage those below standard to drink more milk, sleep longer hours with window open and exercise out of doors every day.

Conclusion

Make a chart for recording gain in weight per month.

Clean Milk

I. Aim—To show the necessity for clean milk.

II. Preparation

A. Specific knowledge required of the teacher

1. Dirty milk is injurious

a. Carries disease germs which develop in the human body.

b. Milk is easily contaminated, therefore the following precautions are necessary.

(1) Care of cow
- (a) Food
- (b) Pure water
- (c) Clean stable
- (d) Shady place in the field
- (e) Kindness
- (f) Washing of coat and udder before milking

- (2) Cleanliness of milker
  - (a) Body
  - (b) Hands
  - (c) Clothes
- (3) Cleanliness of all utensils
- (4) Covered milking pail more sanitary than open
- (5) Bottled milk cleaner than milk in open container

c. Warm milk is splendid medium for growth of bacteria, hence should be cooled immediately after milking and kept in a cool place.

d. To prevent contamination, mouth of bottles should be washed before milk is poured out of them.

References
Appendix C, "Clean Milk"
"Clean Milk" published by Phila. Inter-State Dairy Council, 721 Heed Building, Philadelphia

IV. Illustrative material

- A. Posters
  - 1. Representing rosy cheeked baby drinking pure milk
  - 2. Representing weak child drinking dirty milk
- B. Two glasses of milk
  - 1. Rich and clean
  - 2. Blue colored with sediment at bottom
- C. Pictures of cows and stables

V. Presentation

VI. Conclusion

Another Type of Health Lesson

"Health News"

"Health News" is the name of a weekly folder, which may contain interesting health items pertaining to the individual, home, school, community, such as:

We are Health Scouts
I am captain of one division of the fly campaign
My little sister drinks two glasses of milk each day
The boys of our class will play out of doors each day for one hour

We are forming a Cleaner Schoolroom Club.

The "Health News" may be illustrated, thus motivating the drawing lesson. Action figures are very interesting to children. New words the children desire to use may motivate the spelling lesson.

Suggested Lesson—Grade VIII

Shoes

I. Aim—To encourage wearing properly shaped shoes

II. Preparation

A. Specific knowledge required of the teacher

1. Arch of the foot*

a. Structure

Two springy, living arches of bone and sinew which serve as levers, one running lengthwise from heel to ball of the big toe, and the other crosswise of the instep. Arches are kept in proper shape and position by the action of the muscles of the lower part of the leg.

The arch of the foot does not need a support, but it does need a proper base.

b. Purpose

To afford a "give" or "spring" to the foot, which breaks the shock of the step.

2. Shoe

a. Properly shaped

Longer and wider than the foot at rest, to allow for expansion of arches. Without room for expansion, arches lose their "give" or "spring". The proper shoe should have a moderately broad toe, a nearly straight inner edge, and a broad, fairly low heel. The shoe should be pliable, the sole of fair weight, but not so heavy as to be stiff.

b. Ill effects of wearing improperly fitted shoe

A tight or ill-fitting shoe often causes lame feet, corns, backache, headache, tired muscles, drooped shoulders; exhaustion in running, walking or standing; pain in leg muscles; flat foot; poor carriage; obesity; and dyspepsia.

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*Upon the shape and vigor of the foot largely depend the carriage and gait of the body.

III. References

Appendix F, "Care of Feet and Shoe Fitting"
The Hygiene of the School Child, Terman, L. M.

IV. Illustrative material

- A. Posters
  - 1. Two children—one bright and strong, wearing proper shaped shoes; another tired and weak, wearing ill-fitting shoes.
- B. Model of present day shoes showing long, pointed toe, high instep, French heel.
- C. Model of Chinese woman's shoe
- D. Model of correct shoe for girls, women and boys
- E. Poster or picture representing the sole of a normal foot; of a foot misshaped by wearing ill-fitting shoes

V. Presentation

Subject Matter	*Methods*
A tight or ill-fitting shoe causes lame feet, corns, backache, headache, tired muscles, drooped shoulders; exhaustion in running, walking or standing; pain in leg muscles; flat foot; poor carriage; obesity; and dyspepsia.	Show posters of children. Which child would you rather be like? Why? Show poster of weak child. Do her shoes look comfortable? Is there any relation between the shape of her shoes and her appearance? Tell of some of the ill feeling you experienced when your shoes did not fit. (This put to different members of the class, especially those wearing improperly shaped shoes) Which style shoe will we wear when taking a long walk? running a race? playing tennis? standing still for a long time? Why?
Shoes should be longer and wider than the foot at rest to allow for the expansion of arches. Each foot has two springy, living arches of bone and sinew. These	Why should we all wear shoes that are longer and broader than the foot at rest? Why is this expansion necessary?

Subject Matter—Continued

serve as levers, one running lengthwise from heel to ball of toe, the other crosswise at the instep.

The purposes of arches is to afford give or spring to the foot. This breaks the shock of the step. In order to "give" they must have room to expand. The arches are kept in proper shape and position by the action of the muscles of the lower part of the leg. The arch of the foot does not need a support, it does need a proper base.

The proper shoe should have a moderately broad toe, a nearly straight inner edge and a broad, fairly low heel. The toe should be pliable, the sole a fair weight, but not so heavy as to be stiff.

Methods—Continued

Think of your hygiene lesson on the shape of the leg and foot.

What part of the foot controls walking easily and gracefully?

What is the purpose of the give or spring of the arch?

How does the width and length of a shoe affect the arch?

Picture of Chinese woman's shoe.

Can you give the story of how the Chinese women dress their feet?

Have they been famous for physical exercise and athletic sports?

Can they ever be so famed as long as they wear this style of shoe? Why?

Picture of modern shoe for men; for girls and women.

Point out the objectionable features in the shape of these shoes. Compare the shape of the French shoe heel with the way your own heel is made. Could the one fit the other? Is a high arch necessary to support the instep of the normal foot?

How does the present day shoe affect the mental and physical efficiency of women and girls?

Why cannot we have graceful lithe figures when we wear ill shaped shoes?

Present a model of a properly shaped shoe.

We want to grow strong and big, and to be good athletes—which shape of shoe will we wear?

VI. Conclusion

State hygienic advantages of a properly shaped shoe over an ill-shaped shoe, and suggest in writing what the boys and girls of America can do to induce manufacturers to make hygienic shoes.

VII. Observation-projects

A. Notice girls' and boys' shoes in your class for proper shape; for ill fit.

B. Notice shoes in the family, offer constructive criticism. Visit a local shoe merchant and secure his cooperation in supplying properly shaped shoes.

The Bureau of Health Education, Department of Public Instruction, has, through the courtesy of the teachers and pupils of the State, a collection of health posters which, upon request, it lends to schools for the purpose of creating an interest in health. In requesting signify grade or group of grades in which posters are to be used.

APPENDIX N

Food Habits

The need for Right Eating

The World War disclosed that 25% of the American children of school age are suffering from malnutrition. Belgian scientists conducted a series of experiments upon children from twelve to fourteen years of age who were 20% malnourished and found a retardation in growth of two years.

Such discoveries have created a great interest in foods as a basis of health. Instruction in foods is now given to mothers in health centers that they may feed the little ones correctly. Practical nutrition as a required part of the school curriculum is a new thought in the educational program of to-day.

A study of foods is used to motivate other subjects of the curriculum as arithmetic, geography, English, civics, art, etc. It is recognized as an essential factor in the Americanization of the foreigner.

Aims of Course

In order that proper food habits may be established in the most formative period of the child's life, the plan of this course is to introduce the subject of foods in his first school year. In grades I to III it has been shown that the child will literally play himself into proper food habits. In these grades instruction from which the habit evolves, should be more or less incidental, as for example by linking it with some childish activity or by meeting his curiosity.

Through the first six grades the aim is, primarily, to achieve health through the daily practice of proper food habits and, secondarily, to impress upon the child the relation of right eating to health.

By the end of the sixth year it may reasonably be assumed that the child has established the most important health habits; has acquired a certain amount of self-control in eating and drinking; has a fair knowledge of which foods to eat in order to maintain health under varying conditions; and has a general understanding of the interdependence existing between himself and those who supply him with food.

In grades VII to IX the establishment of food habits will be continued, but now the work must be made attractive to the preadolescent and to the adolescent child; hence the problems will tend more toward a study of food in relation to health, to factors affecting cost, to bodily requirements, and to the responsibility of the individual in maintaining food laws.

Methods

In nutrition, as possibly in no other subject in the curriculum, it is essential that instruction keep pace with the child's physical and mental development. In order that instruction may lead to habit forming and not function merely as formal knowledge, methods of instruction must be both unique and attractive.

Some of the methods most attractive in the first six grades are:

Weighing, measuring and recording (Done in grades I to VI by the teacher and in grades VII to IX by the pupils).
Singing—acting games
Stories, charts, posters
Dramatization and plays
Observation and report-projects

Recording weight upon monthly report card is a stimulus to the child and also attracts the parent's attention.

A luncheon, breakfast or cafeteria party is a nucleus around which to group food selection; laying the table (even though this table be the desk top); table manners; and such personal hygiene as relates to appearances, as well as the importance of cultivating a cheerful attitude during the meal. The one hot dish and the school lunch box afford an opportunity for practice in the study of food values, food combinations, preparation and serving, food sanitation, psychology of foods, and the relation of foods to efficiency.

Whatever the methods pursued, all teaching must be constructive. Emphasis must be placed upon keeping well rather than getting well, and instruction must be related to the child's interests if it is to result in day-by-day health living.

FOODS SUITABLE FOR CHILDREN 5 TO 8

Breakfast

Fruits: (All well cooked except oranges)

Orange; baked (pulp only) or stewed apple; stewed prunes; dried apricots; dried peaches; Bartlett pears; baked banana

Cereals: (Thoroughly cooked and served without sugar)

Oatmeal; wheatina; rolled oats; barley; graham flour; rice; hominy grits

In warm weather: cream of wheat; shredded wheat biscuit; corn flakes; malt breakfast food

Bread:

One day old zwiebach, whole grained, toasted graham, oatmeal, wheat

Butter

Beverages:

Warm milk or thin cocoa made with milk

Egg*

Cooked any way except fried or hard boiled

Mid-morning Lunch

1 Cup of milk with whole grained cracker

Dinner—Noon

Soups:

Cream soups; cereal soup; milks soups, with vegetable puree, such as dried lima beans or peas and spinach, potato or asparagus

Vegetables: (Well cooked in clear water and seasoned with a very small portion of salt)

Spinach; asparagus; carrots; chard; lettuce; peas; potatoes, baked or boiled; tomatoes, strained; celery, stewed; dandelions; beet and turnip tops; fresh string beans. All may be served plain or with cream sauce.

Meats:

Prior to the seventh year meat is undesirable.

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*For most children cereal should be omitted when egg is served and vice versa.

During the seventh year one ounce of meat, fish or chicken may be served two or three times a week.

During the eighth year two ounces may be served four or five times a week.

Miscellaneous Foods:
  Eggs; spaghetti; peanut butter; cottage cheese; American cheese, when melted in combination with some other food; rice
Bread:
  Same as for breakfast
Butter
Beverages:
  Milk or Cocoa

Desserts:
  Fruits, same as for breakfast; bread puddings; junket, milk and egg custards; corn starch, tapioca, cereal puddings; home made sherbets, such as lemon or milk sherbets, home made ice cream, plain cocoa junket, plain frozen custard, made of milk and eggs; plain cookies; stale sponge cake and angel food; plain bread with molasses; bread and honey as a substitute for cake; small portion of candy

Supper

Soups
  Cream soups; cereal soups
Milk combinations
  Bread and milk; cereal and milk; milk toast
Vegetables
  Baked or boiled potatoes; boiled rice
Egg
  If not given for breakfast or dinner
Bread
  Whole grained, graham or white bread
Butter
Beverages:
  Milk
Dessert
  Cooked fruits; nutritious puddings, such as are mentioned for dinner

Notes:

All fried foods are forbidden. The amount of food served varies with the age, size, and physical condition of child. The undernourished child should be given an increased amount and add mid-afternoon lunch of bread and butter or milk and crackers. Malnourished children should be encouraged to eat especially milk, eggs, butter, leafy green vegetables, and celery.

FOODS SUITABLE FOR CHILDREN 8 TO 12

Breakfast

Fruits:

Oranges; cooked prunes; apricots; apples; figs; peaches; pears; bananas; pineapple; plums; grapes (seeds removed); raisins (cooked); all fresh fruits in season when thoroughly ripe, cooked or uncooked

Cereals:
Oatmeal; corn meal; samp; hominy; rice; farina; wheatina; cream of wheat; corn flakes; graham flour; barley. Stewed chopped dates and prunes may be added to white cereals to give variety

Bread:
Whole grained breads served as toast, zwiebach or stale brown, corn, graham or rye breads

Beverages:
Milk (not cold); cocoa (made with milk)

Miscellaneous:

Eggs; bacon; baked potatoes

Dinner (preferably at noon)

After eight years the child may have evening dinner with the family. In this case such differences in the child's meal will have to be made as are necessary to meet his dietary requirements.

Soups:

Cream; cereal; vegetable

Meats:

Lean lamb; mutton; beef; fish; cod; halibut; haddock; oysters; fowl; bacon (broiled); other meats to be baked, roasted or stewed. One or two ounces three or four times per week is sufficient. Milk, eggs, cereals and vegetables are more necessary for children.

Vegetables:

Potatoes, baked or boiled, not fried; onions; squash; cauliflower; asparagus; celery, cooked or fresh; parsnips; oysterplant; turnips; beet tops; turnip tops; dandelions; chard; lettuce tomatoes, (cooked); young beets; sweet potatoes; Brussels sprouts; lentils

Miscellaneous:

Macaroni; spaghetti; cottage cheese; American cheese when melted in combination with other foods; eggs; molasses; sugar; honey

Desserts:

Plain nutritious puddings; plain cake; fruits; gingerbread; home made ice cream and ices; simple candies

Supper

Soups:

Cream; cereal, vegetable, puree soups

Vegetables:

Spinach; rice; white potatoes (baked or creamed); puree of peas or green leafy vegetables such as beet and turnip tops; dandelions

Miscellaneous:

Bread and milk— as separate dishes or combined, such as milk toast, cottage cheese, cereals, eggs

Beverages:

Milk, milk flavored with cocoa

Desserts:

Plain puddings; such as prune, rice, blancmanges, milk and egg custards; ginger cookies; stale plain cake; junket; cooked fruits

I. Classification of foods as types which supply:

A. Energy

Whole milk; butter; cream; bacon; the whole grained cereals; molasses; sugar; honey; dried beans and peas; potatoes; rice; macaroni; spaghetti; nuts and oils, e. g. peanut, almond, English walnuts; chocolate; lentils; olives; corn; cottonseed and cocoanut

B. Growth

Spinach; dandelions; chard; beets; turnip tops; celery; lettuce; Brussels sprouts; asparagus; cauliflower; cabbage; tomatoes; fresh whole milk; butter; cream; egg yolk

C. Tissue Building Material

Milk; eggs; cheese; lean meat; dried or smoked beef; dried lima beans; bacon; almonds; codfish; dried figs; gelatin; graham bread; lentils; macaroni; rolled oats; peanut butter

Notice how the same food appears in each list showing that each one contributes to energy, to growth, to building tissue. Hence all are needed to make strong boys and girls. Emphasize the necessity to use all types of food to maintain the highest efficiency.

FOODS SUITABLE FOR CHILDREN 12 TO 18

Any wholesome nutritious food including cabbage, kale, corn, radishes, chopped nuts, olives, grapefruit and berries, which have not before been mentioned, may be served now. The growth producing foods such as butter, whole milk, eggs, fruit, cereals and leafy green vegetables should still predominate. Coffee and tea are absolutely forbidden.

The girl's diet should represent great variety: be well cooked, attractively served, easily digested, and high in iron.

Normal boys need a much greater quantity of food during this period of growth than girls. Their diet should consist of concentrated, easily digested food.

A quart of milk per day is still necessary for both boys and girls and neither should be permitted to go to school without breakfast.

Eating between meals is forbidden except when hunger really exists. Then bread and butter (without sugar), or whole grain crackers may be served. No sweets should be eaten then as they dull the appetite.

Drink water freely between meals. When taken during meals guard against the washing down of unchewed particles of foods.

One glass taken one hour before breakfast, two taken one hour before lunch and two one hour before dinner flush the system and have a tendency to act as a laxative.

APPENDIX O

Classroom Hygiene

There are certain factors in the care of children in the classroom which teachers should keep constantly in mind. The most important of these are:

I. Seating

A. The seats should be of such a height that they fit the child and the child should be placed in a seat which does fit him. If such a seat is not available it should be provided. A seat fits the child when it is of such a height that he can sit squarely in it with the lower part of the back pressed firmly against the rear support, thighs resting on the seat in a horizontal position, with the feet placed squarely on the floor. The seat and desk should be placed in such relation, one to the other, that the edge of the desk overhangs the forward edge of the seat approximately one inch.

B. The seat should be so arranged that the main source of light comes from the left, somewhat to the rear, and the blackboards should be on the opposite side of the room from the main source of light.

II. Temperature

Classroom temperature should be maintained between 65 and 68°. If the teacher is not comfortable in this temperature she should put on more clothes, rather than raising the room temperature, to the discomfort and injury of the children.

III. Ventilation

A. Where the only method of ventilation is by means of open windows and doors, air will not circulate readily unless it has a point at which it can get out as well as come in. It is necessary, therefore, to have open more than one window, or at least more than one sash of the window, if any real circulation is to take place. Opening only the door or only one window is likely to cause a direct draft upon some one child or group of children. It is far preferable, therefore, to open all of the windows in a classroom, both top and bottom; if the weather is cool this means that each should be opened only a very little. The placing of a window board or cheese cloth screen at the bottom of the window will prevent wind from blowing upon pupils. It is important to emphasize that the discomfort which comes in a poorly ventilated room is due to the fact that air is not moving rather than to the fact of its higher carbon dioxide content. Moving air is, therefore, essential.

B. Where there is a jacketed stove. Ordinarily an air tight stove is a heating apparatus not a ventilating one. In order to secure ventilation it is necessary to surround this stove with sheet metal placed at a distance of about 8 inches from the stove reaching to within a foot of the floor and extending about five to five and one-half feet above the floor. This shield not only prevents the overheating of pupils near the source of heat but acts as an air flue. The air between the jacket and stove, being heated, rises and pulls into its place the cool air from the floor, the heated air rises to the ceiling and spreads over the room, gradually settling to the floor. This circulation of air usually is aided by placing in the room some sort of foul air duct with its opening near the floor. With this type of ventilating apparatus, windows may be opened whenever it is felt necessary.

C. With a hot air furnace. Where ventilating is done by means of a hot air furnace there should be opportunity for fresh air to come to the classroom through the heating apparatus and for entrance into the room at all times of warm, fresh air. Except at times when the wind is blowing strongly from certain directions it is possible, in addition to this, to increase the amount of fresh air by opening windows, as suggested under A.

D. Ventilating with a fan system. With this system, by means of fans, heated air is forced through ducts into the room. It is usually seconded by a foul air duct placed near the floor. If the flues in such a plant have a proper area and the ducts are properly located, windows may be opened without detriment to the circulation of air.

E. At certain periods, such as during physical activities, relief exercises, games, plays and at recess time, windows should be opened regardless of the type of ventilation installed. This is presupposing that the active exercise and recess periods of all the rooms of the building take place at the same time. School programs should be arranged so that this will be the case.

IV. Cleanliness and Neatness

The classroom is the parlor and living room of the pupils. They should be taught to take the same care of its cleanliness and its neatness as they would of those rooms in their own homes.

V. Temporary absence of pupils

Pupils should be permitted to leave the room to go to the toilet whenever such a desire is expressed. If it is felt that this privilege is being abused, the cause should be investigated with the parents, school nurse or school physician.

APPENDIX P

Signs of Illness

Suggestions to teachers regarding illness, in order to protect the well from the sick, the cleanly from the uncleanly, to prevent the spread of diseases, to raise the general health of the school children and thus get better results for the efforts expended by the teacher, are made as follows:

Certain general symptoms of disease should be noted, and where these indicate the possible onset of an acute infectious disease, the child should be excluded from school until the disease develops, or until the symptoms subside. This usually means a very short exclusion on the responsibility of the teacher or principal, as the development is rapid usually, and if the symptoms are of no importance they quickly subside. Where the symptoms indicate chronic trouble the parents of the child should be advised to seek competent medical advice.

Emaciation with loss of weight is a sign of many chronic troubles, but the thing to be thought of and guarded against is tuberculosis.

Pallor usually indicates anemia, in young girls it usually means a peculiar type of anemia called chlorosis. The latter is usually accompanied by shortness of breath. Otherwise the child often appears very well. Sometimes pallor means kidney disease, but here there is usually some puffiness of the face.

Puffiness of the face, especially about the eyes points to kidney disease; but may be caused by growths that obstruct the nose.

Shortness of breath, if with pallor, indicates anemia, if with blueness it usually points to the heart, and if it is accompanied by a cough one should suspect the lungs.

Swellings in the neck. These may be due to mumps or to enlarged glands. Mumps comes on acutely and is located just behind, just in front and below the ear. Swollen glands appear lower in the neck, or about the angle of the jaw. If these glandular swellings come quickly, they mean some acute disease of the throat, tonsilitis or even diphtheria; if slowly they are most often due to bad teeth or tuberculosis. These may, however, be the result of irritation of the scalp, or head lice.

Flushing of the face—if acute, means fever and perhaps the onset of contagious disease; if chronic, it may mean tuberculosis.

Eruptions. These may be manifestations of the onset of some contagious disease.

That of *Scarlet Fever* is a bright scarlet color, usually appearing on the chest and neck, thence spreading to the face. It is often accompanied by a pale ring around the mouth. There is also usually a sore throat in scarlet fever.

Measles. The rash of measles, usually preceded by running of the nose and eyes and by a cough, appears as a rose or purplish red eruption occuring in blotches about the size of a pea. Ordinarily it first appears on the face.

The eruption of *chicken pox* appears first as small red pimples which quickly become small blisters.

Irritating discharge from the nose. Be suspicious of any thin, watery nasal discharge, which irritates the nostrils and upper lip. Diphtheria often manifests itself in this way without other symptoms. A chronic thick, creamy discharge is also suspicious. These cases are just as dangerous to others as those located in the throat.

Evidences of sore throat. Here we may get swelling of the neck, and usually do get difficuty in swallowing. Sore throat may mean only tonsilitis but not infrequently it marks the beginning of a serious acute contagious disease such as diphtheria or scarlet fever.

Coughs. If a child is coughing, note the character of the cough. A cough that is paroxysmal and uncontrollable, perhaps ending in gagging, often indicates whooping cough. A croupy or "brassy" cough which is ringing and harsh may mean diphtheria. A painful cough may mean lung disease, especially pleurisy or pneumonia. A chronic cough may mean tuberculosis.

Vomiting. This, of course, usually means digestive disturbance. Oftentimes, however, it is the first symptom of a starting contagious disease.

Frequent requests to go out. These often indicate trouble of bowels, kidneys or bladder and should be investigated.

Teeth. Be on the lookout for pain and swelling in the face. Mouth breathers should have teeth as well as throat examined. Indigestion, physical weakness, mental dullness, disease of the ears, disturbances of vision and swelling of the glands of the neck may be caused by diseased teeth. Cleanliness of teeth and mouth should be impressed on all children.

Eyes. Parents should be requested to have the children's eyes examined in the following cases: children who habitually hold the head less than twelve to fourteen inches from their book; those complaining often of headache, especially if this comes on late in the session; whenever there is any squint or cross-eye; when there is habitual scowling and wrinkling of the forehead when reading or writing; where there is twitching of the face; where there is inattention or slowness in book studies in a child otherwise bright. Where there are "sore eyes" have the pupil examined, and treat as contagious until you get a physician's certificate that they are not. Acute inflammation of the eyes may mean acute contagious conjunctivities or may be an early symptom of measles.

Ear. A child with chronic pain in the ear should be advised to seek medical advice, as should one with a discharge from the ear, as prompt attention will often check trouble that otherwise results in loss or marked diminution of hearing.

Throat and Nose. Discharge from the nose may mean a cold, or measles, or, if there is a severe hoarseness with difficult breathing, diphtheria. If the discharge is from one nostril only, suspect a foreign body in the nose.

Chronic nasal obstruction is manifested by mouth breathing, snoring, dullness, recurring ear trouble, frequent colds, etc. These cases should be advised to seek treatment. If there is an eczematous condition about the nostril suspect head lice. Children having frequent nose bleed should be advised to get treatment.

Diseases of the Skin

Pediculi Capitis (Head Lice). Very common. No one should be blamed for *having* them,—only for *keeping* them. The victim scratches the scalp, which leads to inflammation of the skin of the neck and scalp; gets crusts and scabs in these regions and an eczematous condition about the nostrils; often get swollen and painful glands back of the ears and in the neck. The easiest means of diagnosis is by the nits or eggs which stick to the hair and are not easily brushed off. These cases should be excluded until the hair is cleaned and free from lice and their eggs.

Impetigo. Often secondary to irritation or itching diseases of the skin, where the scratching has resulted in a pus infection. It appears as spots or areas, first yellowish and covered with small pus-filled pimples, most often on the face, neck and hands; sometimes on the body and scalp. These spots vary in size and may often run together on the face to form large areas, covered with thick, dirty, yellowish or brownish crusts.

The disease is contagious and children having it should be excluded until *all sores are healed* and the skin is smooth.

Ring-worm. Usually appears on the face, hands or arms, rarely upon the body. It occurs as more or less perfect circles. Where the disease attacks the scalp the condition is serious. Children having ring worm should not be allowed to attend school, unless under proper treatment and supervision.

Scabies, (the Itch). A contagious skin disease, due to an animal parasite which, burrowing in the skin, causes intense itching and scratching. It usually starts on the hands and arms, spreading over the whole body, rarely affecting the face or scalp. Its favorite haunt is between the fingers, on the front of the wrist, at the bend of the elbows and the armpits. In persons of cleanly habits it may *not* show on the hands.

Scratching soon starts a skin infection and often impetigo. It is very common. All children who are scratching, or have an irritation upon the skin should be examined for scabies. Everything handled by a child with scabies should be boiled if possible, and all these children should be *excluded until cured.*

Nervous and Mental. Whenever children show nervous excitability or restlessness as twitching, fumbling, convulsions, loss of consciousness, etc., the parents should be advised to seek advice.

Exclude pupils who show signs of illness such as noted below:*

1. Unusual rash or skin eruption

   May indicate presence of Scarlet Fever, Measles, German Measles, Chickenpox, Smallpox, Ring Worm, Scabies (Itch), Impetigo Contagiosa.

2. Complaining of sore throat

   May indicate presence of Diphtheria, Scarlet Fever, Measles, Tonsilitis.

3. Redness or discharge of the eyes

   May indicate presence of Measles, German Measles, Pink Eye, Trachoma (Granular eye lids).

4. "Running" nose.

   May indicate presence of Measles, Diphtheria, Scarlet Fever, Influenza, "Cold."

5. Cough, frequent, spasmodic or with a whoop

   May indicate presence of Whooping Cough, Tuberculosis, Measles, "Cold."

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*Instructions to teachers. Department of Health, Commonwealth of Pennsylvania.

Notify the local Health Officer of any exclusion on account of sickness.

Re-admit pupils absent because of a communicable disease only upon certificate by the Constituted Health Authority (the Health Officer) setting forth that they are non-infectious.

APPENDIX Q

Health Department: State and School

The following statement and suggestions are contributed by the Pennsylvania Department of Health:

"The Pennsylvania Department of Health has charge of the administration of the public health affairs of the entire Commonwealth (with the exception of organized municipalities and first class townships), the supervision and regulation of the public waters and sewage disposal and is empowered to utilize any means which, in the judgment of the Commissioner (its administrative head) is advisable to promote health and afford protection against disease. It arranges for and supervises the medical examination of the children in the public schools, collects and compiles vital statistics, maintains sanatoria for the treatment of tuberculosis and enforces compliance with the State Health Laws.

"The public health affairs of cities of the first, second and third class are governed by local Health Departments; those of boroughs and first class townships are regulated by Boards of Health which operate as follows:—

"The legally constituted Board of Health consists of five persons, one of whom shall be a physician, appointed by the President of Council in boroughs, in first class townships by the President of the Board of Commissioners. Each member is appointed for a term of five years and receives no compensation. The Board elects a President, Secretary and Health Officer. The Secretary, who usually receives compensation for his service, may or may not be a member of the Board. The Health Officer, whose duty is to establish quarantine and enforce local regulations, may not be a member of the Board. The amount of pay of the Health Officer is decided by the Board of Health and approved by the Borough Council. The Board of Health makes an annual requisition for the amount of money which will be necessary for its maintenance during the ensuing year. This amount is appropriated by the Council out of the municipal funds. All Pennsylvania Laws and the Regulations of the Advisory Board concerning health administration are applicable to Boroughs and must be enforced.

"Municipalities are permitted under the law to add such additional ordinances, not conflicting with Commonwealth's Laws, as will further promote public health.

"When no local health ordinances are adopted by Boroughs, all fines accruing from prosecutions for violation of the Pennsylvania Health Laws, revert to the County Treasury of the respective county in which the Borough is located. When Pennsylvania Laws or Regulations of the Health Department are passed as Borough ordinances, such fines may be claimed by the Borough Treasury.

"*School Board of Health.* It is advised that every school in Pennsylvania establish a local Board of Health for its own government. The organization and administration of such Boards to be patterned after that of Borough Boards of Health. In one room schools the Board should consist of five members. In larger schools the membership may be increased to include one member from each school room. The term of office, made in accordance with local expediency, to be not less than three weeks or more than six. Membership on the Board of Health should be a reward of merit. Upon appointment the Board should proceed to elect a President and Secretary. Two Health Officers, a boy and a girl, should be appointed from each room. The Health Officers to be appointed upon the recommendation of their teachers. The Board of Health should enact ordinances in accordance with local conditions. No ordinance to be effective without the signature of the principal or the teacher in charge.

"*The Duties of the President.* The President shall preside at all meetings and shall have general supervision of work of the Board.

"The Secretary shall be the custodian of all property of the Board, shall keep the minutes, a record of all orders and shall make weekly reports to the governing head of the school.

The Health Officer shall make daily inspections of schoolrooms, halls and toilets. Shall keep a record of the temperature of the schoolrooms, taken four times daily, shall call the attention to individual pupils of violations of the adopted ordinances and shall make reports in writing to the Board of Health at their regular weekly meeting, and emergency reports to the President of the Board at such times as necessity may require.

"*Meetings.* Regular meetings of a School Board of Health shall be held once a week at the time and place specified by the governing head of the school.

"All meetings shall be open to the school but no person except members of the School Board of Health may be entitled to vote or participate in discussions, except by permission of the Board.

"Special meetings may be held upon the call of the President or any two members. A call for a special meeting must be addressed in writing to each member of the School Board of Health, stating the purpose of the call and no other business, except that specified, may be transacted.

"The generally accepted parliamentary rules shall govern the transactions and business of the Board.

"A majority of all members shall constitute a quorum.

"At regular meetings the following order of business shall be observed:

(1) Call to order
(2) Reading and approval of minutes
(3) Reports of Health Officers
(4) Unfinished business
(5) Hearing of complaints
(6) New business
(7) Adjournment

"*Suggested Ordinances.* The temperature of the schoolroom shall at no time exceed 68 degrees Fahrenheit.

"At 9:45 and 11:45 A. M. and 1:45 and 3:15 P. M. windows shall be opened and calisthenic exercises indulged in for the space of three minutes.

"Drinking fountains shall be kept clean and in order and the jets shall spurt at least two inches in height. (Where drinking fountains do not exist, all pupils shall have individual drinking glasses).

"Toilets shall be kept clean and in order.

"The blackboards should be cleaned and chalk dust removed every evening by the janitor.

"Trash should not be permitted to accumulate in desks. The inside of all desks should be kept in order and free from dust.

"In sweeping schoolrooms, the floor should first be sprinkled with water, dampened saw dust or one of the "dust down" preparations. It should afterward be swept with a soft bristled brush. No stiff bristled broom may be allowed in the school house.

"In dusting, no feather duster may be used. The janitor should be required to use a dampened cloth which removes as well as cleans.

"Each evening all window blinds should be rolled, so that the schoolroom, during hours not in use, may have the advantage of the germ destroying action of light.

"Desks should be properly adjusted to the size of each pupil.

"School books should be kept clean and the wetted finger should never be used in turning leaves.

"Spitting in the schoolroom is prohibited.

"Clean hands and nails are required.

"Clean teeth are required.

"All coughs and sneezes should be covered with a handkerchief.

If there be no time for that, by the hand, which should be immediately washed.

"Spit balls are prohibited.

The Health Officer shall ask the following questions of each pupil under his jurisdiction and report the totals, without giving the names, at the regular meeting of the School Board of Health:

Do you sleep with your windows open?
Do you drink milk every day?
Do you take a bath every day?

"From April first until the close of school the following additional questions are to be asked:—

Do you know of the existence of any places where flies are likely to breed? Where?

"Secretaries of the School Boards of Health should make a list of possible fly breeding places and forward such reports, through the governing teacher, to the municipal Health or township Health authorities."

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